Agriculture Leads the Way

"THE return to prosperous conditions in the United States will be preceded by a substantial rise in commodity prices."

This has been the prediction of leading economists in the country ever since the deflationary period set in over two years ago.

We have the pleasure to herewith chronicle the fact that the substantial rise in commodity prices, which is the necessary prerequisite of the return to prosperity, has taken place.

The basic commodities in the United States are agricultural products—wheat, corn, oats, rye, barley and like products of the soil.

Wheat, corn and other grains had declined to the lowest prices in over 50 years, due to large crops in this country, the decline in consumption, and the cyclone of fear that has swept the world.

However, one month ago, the situation in the breadstuff and feed grain markets had struck bottom, and quietly, but firmly, basically turned upward. Then, the news of the shortage in Russia and that country's oversold condition and poor quality crop, together with the reduced acreage all over the world, and the unprecedented shortage in stocks on hand in European countries, suddenly became public property during the last week of October, and the scramble for agricultural products at unprecedentedly low prices took place.

Closing the first week of November, wheat had made a horizontal upturn of 23¢ per bushel from the low point, or an advance of approximately 50 per cent. Prices on corn had advanced 15¢ a bushel, oats 7½¢ a bushel, and rye 16¢ a bushel from the low point of October 5. Over $500,000,000 had thus been added to the value of grain in the farmers hands during the past month as the result of the continuous advances of these basic commodities.

From everything that we can glean, the advance is not only substantial, but warranted. Of course, there are a number of cautious, wise, disappointed speculators who have been shaking their heads for the past two weeks claiming every day that there would be a check and a break in the advance. Instead of it, there has been a continuous rise, and predictions are made by eminent authorities in the grain markets, who in the past have proved the infallability of their good judgment by acquiring substantial fortunes for themselves and associates, that the prices for grains are still too low and will go materially higher.

Thus, the whole commercial picture in the United States is changed. The prerequisite advance in commodity prices which presages the return of prosperous conditions has taken place. That a substantial amount of the upturn will be retained and the probability that higher prices are warranted is indisputable.

In order to get an adequate idea of how far-reaching and fundamental this upturn in commodity prices is, one has but to remember that 45 per cent of the population of the United States is dependent upon agricultural commodities for their livelihood and profit.

With $500,000,000, within the short space of one month, added to the purchasing power of the agricultural dependents, it means that every

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avenue of commerce and industry will shortly feel the impulse of the changed conditions.

The substantial rise in agricultural commodities is the forerunner of the like advance in the industrial commodities. They are already taking place. That they must advance admits of no doubt.

Industry has been operating in this country at no profit and selling its goods below cost. Industry must return to a profit-making basis. It is inconceivable that industry in the United States can continue to operate on a below-cost basis.

All investment in the United States is predicated upon the profitable operations in the production of commodities whether agricultural or industrial. Without profit, there can be no prosperity.

The change in the commercial and industrial picture that we have before us is welcomed by every patriotic American. It means the end of the so-called "depression" is at hand. It calls for the return to profit-making operations in every branch of industry. No man nor set of men in the United States can predict the tremendous volume of essential buying that must follow these changed conditions, but in order to have prosperity flow from furnishing this nation with its necessary supplies, the prices for all commodities must advance to a profit-making basis.

Now, this includes the paper industry. There is no basis for complaint in the matter of prospective tonnage which will go to all producing units, but the immediate necessary action is an immediate marking up in all divisions, of the ruinously below-cost prices for all grades of paper.

To show how ridiculous the situation is, let us give but one example. The price for chemically made 100 per cent choice northern sulphate papers has been forced down to the unprecedented below-cost figure of $53.90 per ton delivered. In contrast, newsprint, made of 80 per cent groundwood and 20 per cent sulphite, is bringing a price of $57.00 per ton net delivered.

Never before in the history of papermaking has such a ridiculous price relationship existed. It is the duty of the paper industry to immediately change its price-making tactics. The industry never faced a bigger potential demand for paper than is extant to-day, and it is inconceivable that the paper industry shall muff its opportunity to go on a profit-making basis, and out of those profits do its part to keep men employed and taxes paid to provide the Government with the necessary revenues for its existence.

The "depression" is at an end. Resumption of prosperous operations is at hand. The paper industry has an epoch-making challenge before it.

Gratitude

TO be really grateful is more than voicing thanks for blessings received. True gratitude is found in expressions of activity and brotherly love.

As the President's proclamation calls the people of the country together to offer thanks, it should be considered a season of serious consideration, of constructive planning.

The world has seemingly been enslaved and bound by a lack of business; many thousands of workers have been unemployed. Under such conditions, there must be more real gratitude, a larger expression of activity, a building up of good will—with such a structure business will profit.

Business can bring back the stimulus to commercial activity and restore normalcy by developing better products; through study and research, plant conditions may be improved and methods of manufacture perfected; a desire to give customers the best possible service will perpetuate business relations. In giving better products, there is always financial compensation, which permits expansion, the ability to do more business, and ultimately employment for a greater number.

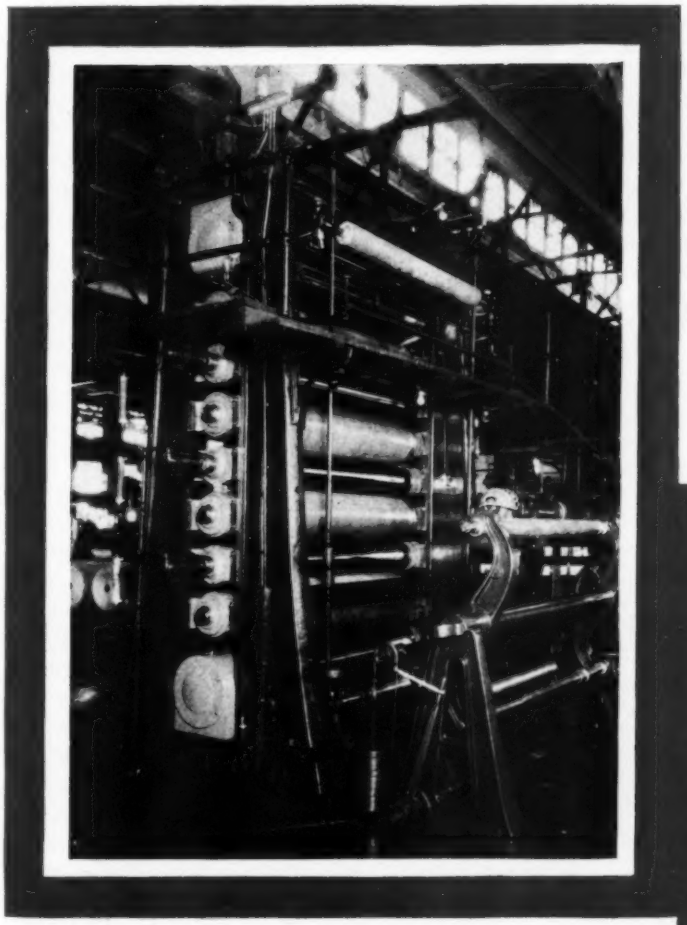
The talents entrusted to business must be put to work, not buried. Only by right activity will the world's condition be brightened, business stimulated and unemployment overcome.

Thomas Alva Edison

IT is eminently proper that tribute should be paid in a paper industry periodical to the genius of Thomas Alva Edison whose inventions have contributed so much to the advancement of manufacturing processes in the industry. Not that Edison was a believer in any superior inborn power of mind, such as is implied by the term genius, for like Viggo Drewsen, an inventor of note in our own special field, he denied the existence of a faculty of this kind, insisting that the results obtained by him were due to inspiration two per cent and perspiration 98 per cent.

Although Mr. Edison had no academic technical training, he possessed great technical ability and his invention of the celluloid roll-film made motion pictures possible. His invention of the electric incandescent lamp led to the development of the dynamo and the erection of central stations for the generation and transmission of electric cur-

Dodge Experience Insures Dodge-Timken Performance

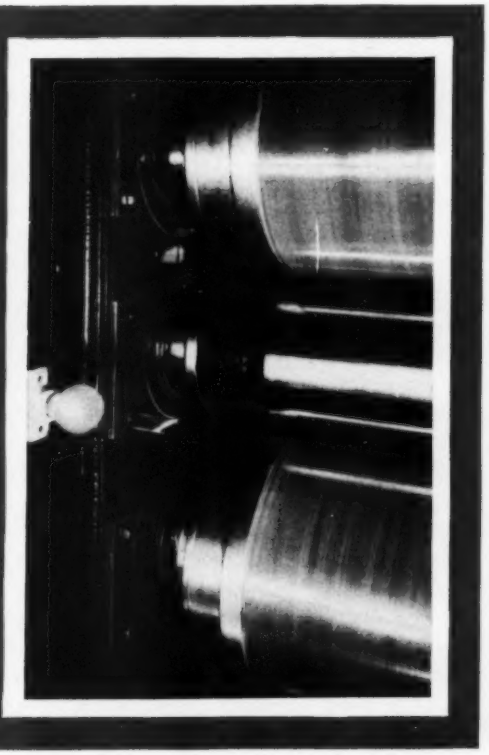


This is the first of eight 100% Dodge-Timken equipped Supercalenders which will soon be in service at the Champion Coated Paper Company at Hamilton, Ohio. Several other prominent mills will soon have one or more supercalenders similarly equipped.

The successful performance of Dodge-Timken equipped Supercalenders which has reduced power consumption 50% and increased production 37½% is due to one factor more than any other—Dodge experience in mounting Timken Bearings.

The patented Dodge mounting introduced in 1924 made possible the manufacture of completely assembled factory adjusted Timken equipped unit bearings for industrial applications.

You can obtain the full benefit of Dodge experience only by specifying and buying Dodge-Timken Bearings—the only complete line of bearings for ALL paper and pulp mill applications.



Note particularly the absence of oil stains on the ends of rolls. No lubrication can get past the efficient grease seals provided in Dodge-Timken Bearings.

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DODGE MANUFACTURING CORPORATION
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TO DODGE-TIMKEN-ize IS TO MODERNIZE

E D I T O R I A L

rent for light, heat and power to millions of homes and factories. It has been well said that every incandescent light is his remembrance and every power house his monument.

It would take many pages to record the numerous achievements in Mr. Edison's life as an inventor. The patents issued to him number no less than 1,150. His inventions covered practically all fields of science, giving work as well as light and recreation to millions of people, and on foundations created by him there has been reared a marvelous electrical structure which has transformed the world of industry, adding immeasurably to the productivity of mankind.

Thomas A. Edison's life remains an example of what intelligence, moral character, industry and extraordinary ability can achieve. In his passing, all the world mourns the loss of a universal friend.

A Planning Board for the Industry

THE National Paper Council of the paper industry, created at last year's meeting of the American Paper and Pulp Association in a reorganization of its activities, is beginning to function in active fashion. The membership of the National Paper Council is made up of individual representatives of group associations, such as the book and cover paper manufacturers, writing and other fine papers, cardboard, kraft, tissue, binders board, envelope, glassine, etc., such representatives being designated National Councillors. It affords a desirable means of contact with the manufacturers of different grades of paper and board, and acts in an advisory capacity to the Executive Committee of the association, this committee itself being a creation of the National Paper Council through its nominating power.

Control of production, of marketing, of raw materials, of costs, of wages, employment and legislation were subjects discussed at a preliminary meeting of the Council in New York at an all-day sitting on October 30. One outcome of this meeting is that recommendations for the guidance of the groups are to be formulated by subcommittees and distributed through the group associations. Different plans will be drawn up to meet common problems of the industry, for, as set forth in a general resolution adopted by the council, the interest of every individual producer is tied up with the group of individual producers of like grades, and overproduction of any grade leads only to destructive competition and consequent demoralization of the trade.

The council expressed itself in no uncertain terms on this subject, saying that it had been demonstrated frequently that competition of this kind might force the whole group to adopt the practice of a minority in overproduction, price cutting, or breaking down of fair trade practices, with eventual disaster to the individuals themselves as well as to the group.

The intimacy of acquaintance and discussion made possible by group association was characterized as sound business practice, and it was declared that having in mind the best interest of the producer, the converter, the distributer, employees, the general public and that of general recovery of American business, the meeting should put itself on record to this effect. It was accordingly resolved that the National Paper Council and Executive Committee of the American Paper and Pulp Association should individually and collectively further all possible action to bring about organization in all grades of the paper business and strengthen already existing organizations.

There was much additional business of a constructive character transacted at this meeting of group representatives. Enthusiasm was displayed in their support of the association's action in petitioning the Government to defer sales of Government-owned timber involving new construction of production facilities. It was urged that arrangements be made for the periodical publication of a monthly world summary of world production of wood pulp, and they endorsed the efforts now being made by the association to bring about a new system for the grading of pulpwood by the adoption of standard rules of grading. Several other subjects were discussed in a preliminary way and arrangements will undoubtedly be made for a thorough investigation in the near future. What it is hoped to accomplish is the operation of an Industry Planning Board for the distribution through the group associations of recommendations bearing on policies and the handling of such problems of production, marketing, and costs as are of common interest. Such a program of activities will call for intensive co-operation on the part of individuals as well as groups if a satisfactory solution of the problems confronting the industry is to be reached, and it is earnestly to be hoped that each manufacturer will contribute his share of effort and support to the work.

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THE PAPER INDUSTRY

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Generation and Exchange of Power *as* Applied to the Paper Industry

By FRED F. KAUFFMAN [1]
Consulting Mechanical Engineer
Philadelphia, Pa.

Accurate Information Obtained from Survey of Plant Demands Is First Requirement for Basis on Which to Study and Effect Steam Economies

IN the manufacture of paper the cost of generating steam and the cost of power make up an item that plays no small part in setting final costs. So much is this true that I do not know of an industry in which there is a greater opportunity to effect savings.

The subject naturally resolves itself into two main subdivisions, the generation of power and then the proper application of that power after it has been produced.

I am sure you can remember those easy-going times not so many years ago, when fuel was cheap, labor was cheaper and keen competition was considered almost unethical. When, if a man owned a car he was spoken of as "The Big Boss," and the employees could think of no higher ambition than to own a touring car. In those days it did not bother the executive that for every dollar's worth of fuel that the fireman threw into the furnace he only got 45 cents worth of steam at the boiler nozzle. Fifty-five cents worth of that dollar was used in heating the surrounding atmosphere and in producing neat piles of ash on the dump.

But, today, all the employees own cars and they all drive to the plant in the morning and drive home at night. Their ambitions are turned a little higher than the possession of an auto, a pair of goggles and a white linen duster. If the employee has raised his standards why not the executive? Why should he still aim at retrieving only 45 cents of every dollar spent on fuel. Boiler efficiencies have risen above the 80 per cent mark. It is possible for the wide-awake man to get 80 cents worth of steam for every dollar's worth of fuel used. Why not get it? In justice, it must be stated that some of the larger companies are already getting results like this; why not the smaller?

Many men at the head of smaller plants have the mistaken idea that all this progress is fine for the big plant but that the little fellows must remain as wasteful as ever. Nothing could be farther from the truth. I personally, have designed and put into operation plants as small as 300 b.hp. from which the average yearly return on money invested in fuel was over 77 per cent, with a steam cost of 18 cents to 19 cents per thousand pounds of steam. One plant I have in mind does not even have a railroad siding and all fuel must be trucked a distance of three miles.

In making an attempt to reduce power costs, a careful survey of the plant demands should be made. Accurate figures should be obtained on the quantity of steam required for each stage of the process and the pressure and temperature at which that steam must be supplied. These data should be obtained not merely for a day or two but for the most extended period possible so that a complete picture of steam and power demands may be painted before starting

[1] Read at the annual meeting of the Penna.-New Jersey division of the Superintendents' Association in Philadelphia, October 17, 1931.

the actual work of calculation. I also very advisedly used the word accurate in referring to the determination of process demands, for far too many projects have been discarded as unfavorable because they were based on assumed data and not an actual determinations.

A careful analysis of these figures will enable you to ascertain whether each process is receiving its proper share or whether steps should be taken to reduce the consumption at one point or increase it at another. If a new boiler plant is contemplated the required boiler surface can be approximated.

Suitability of Fuel and Feed Water

Your attention can next be turned to feed water and to fuel. These two items, the quality of water and the fuel best adapted to the particular plant, are governing factors in the cost of steam production. If either the water or the fuel be grossly unsuited for the particular job, steam costs will be high. Water with rapid scale-forming properties will rapidly reduce the heat transmission through boiler tubes, thus increasing fuel losses. It will boost maintenance costs on the boiler and increase the losses due to outage of expensive equipment.

The plant must be suited to the fuel to be burned. This sounds like putting the cart before the horse but in any one locality, for a given size of plant and operating conditions, there is a very narrow range of fuels from which to select and but one proper way to burn the particular fuel selected.

An unsuitable coal, incorrectly fired can cause troubles in a boiler plant, almost too numerous to mention. Think for an instant of the repair bills to furnaces whose refractories have been attacked by clinker adhesions. Think of the losses due to fly ash deposits on tubes and the difficulties of ash removal with the wrong coal, or the excessive cost of burning an oil too expensive for the plant.

At item which is too little considered in plant accounting is the outage of large units. Every time a boiler is off the line it is eating its head off in fixed charges, not to mention the cost of the actual cleaning or repairs. The longer a boiler can stay on the line, in perfect condition, the better the steam cost item will look at the end of the year. To this end, a most careful study of the proper boiler, setting, feed water, and fuel-burning equipment is necessary.

By the redesign of furnaces or stoker-fired jobs, the time between repairs to the refractories has been lengthened from three or six months to five years. This one item can show how important proper design can be.

Assuming that everything has been checked thus far, all the foregoing good work can be nullified by connecting these perfect furnaces to an improper stack and bad flue connections. Improper adjustment of areas and sharp bends and constricted sections in flue, or neglect to prevent loss of heat through the flue, will cause excessive draft loss and necessitate an unnecessarily large stack or render a proper stack unable to take care of the furnaces.

Finally, the boiler house must be equipped with proper instruments not only to guide the operating personnel but to give the management a constant check on costs of operation so that test conditions can be duplicated every day of the year.

The daily results should be analyzed and compared and a monthly report submitted to the executive, showing not only total costs, but the sub-divisions of power supplied to each department or process reduced to a unit of output, and the subdivided costs of producing that power at the power plant.

On the report too much importance cannot be attached to the item cost per thousand pounds of steam. This is the business manager's most reliable check on the operation of his boiler plant.

On all of the foregoing, a periodical check should be made by someone not directly connected with the plant, for if a man is too close to his job he is apt to overlook many things immediately noticed by the man with a fresh viewpoint.

The Importance of Skillful Operation

No plant, no matter how skillfully designed, nor how foolproof it is made, can be any better than the men operating it. Fortunately the old conception of the firemen and the operating engineer is passing, but many otherwise enlightened men still cling to the belief that because a fireroom is a dirty hole, the worst possible type of man is the man to put there. A man who handles the amount of money represented by the fuel that annually passes through the fireman's hands deserves far more importance than he usually is accorded. Some farseeing men have realized this. For example, the highest paid man under Mr. I. E. Moultrop, supervising chief of the Boston Edison company, is the fireroom engineer who is in complete charge of combustion.

But this type of man can not be shoved into a dirty hole for eight hours a day. To attract good men and to make them stay, to make them work as they should, and take a real interest in their jobs they must be given clean, light and airy firerooms and the best of working conditions. If the present day fireroom is not as clean and spick and span as any other part of the entire plant, there is something radically wrong with the management, and that fireroom is not running as efficiently as it might.

The Economical Use of Steam

We can now pass to the use of this steam after it has been generated.

Public Utility central stations, because of their size, and the important pioneering work they are doing in the field of higher pressures are generally held up as shining marks for the industrial plant to shoot at. This is entirely wrong. The Public Utility

produces but one commodity, Power. In the industrial plant, power is merely an incident, though often a large one, in the manufacture of the finished product. Industrial work, and particulary the paper industry, offers a great diversity of conditions so that the generation and application of power often taxes the ingenuity of the designer to the utmost.

In industrial work the only safe and absolute method is to figure out the total cost of all power services as follows:

1. Temporarily forget the mechanical power requirements and the boiler plant and study the uses of heat.
2. Every operation requiring heat should be done with low pressure steam wherever possible.
3. Reduce the amount of low pressure steam to a minimum through the detailed study of machines and processes.
4. Then adopt a type of prime mover that will give the greatest amount of mechanical power per pound of steam extracted.
5. Spend your money first on improving apparatus, methods, piping systems, etc., utilizing low pressure steam, before considering the boiler plant, except for other reasons than efficiency.

With this procedure you can with various set-ups pick that which gives the lowest total cost.

Power cost alone can be figured as the difference between the total cost with a given power set-up, and the total cost of producing process steam alone.

In making this comparison, strict equality would require figuring the cost of producing process steam alone on the basis of a plant designed for that sole purpose.

After a plant is once constructed it is customary to figure a monthly steam cost including all boiler-room charges. Process and power are then charged with the steam used. The steam used in power consumption is generally taken as the total weight sent to the condenser or free exhaust plus four lb. of steam for every kilowatt hour generated entirely as a by-product of process steam. The steam used in the generation of a by-product power is so small as not to warrant refined calculations and the four pounds is sufficiently close to the actual for all your actual purposes. The power generated must also carry all additions to turbine-room, fixed charges, labor, etc., made necessary by the generation of power.

This process steam application has increased the requirements for varied steam temperatures, and heretofore where one temperature was sufficient, that is from the exhaust of an engine or turbine alone, these requirements have increased, demanding at least two additional sources of steam temperatures for process work.

It naturally fell on the main turbine to supply these temperatures in generating the necessary electric power, and it is surprising the amount of work done and money expended by a few turbine manufacturers to meet this demand. To-day control has been perfected to bleed steam from two points on the turbine to give required process steam temperatures in addition to that of the exhaust, thus producing a kilowatt of current at approximately 0.3 cents.

Air in Steam

There is another field for improvement and economy in the paper industry in which very little study has been made, and that is the entire elimination of air from the process steam.

Air is one of the greatest drawbacks to proper heat transmission it should by all means be kept out of the apparatus. It is possible to design, construct and operate a closed system at very little increased cost to accomplish this. It will show appreciable increased economy.

Possibility of Exchange of Power

One final word as to the exchange of power. This portion of my subject, like the honor of leading the advances in battle, was somewhat forced upon me.

This is a subject of tremendous importance and no doubt points the way in which many large reductions in rates to the consumer are to be made in the future. In this immediate vicinity, the time is not quite ripe for the movement to gain much headway, although the Deepwater plant is a big step in the right direction.

It is almost selfevident that an industrial plant having large demands for process steam and little or no electric power load is forced to waste the opportunity of making large amounts of electric power as a by-product. The by-product cost of this power is far below the bare generating cost of the Public Utility. If the load factor of the Public Utility admits the purchase of this current, it is an arrangement profitable alike to the industry, the utility and the ultimate consumer.

There is also a possibilty of two neighboring paper companies having loads such that an exchange of power would be mutually advantageous. Two paper companies in Gloucester, N. J. are operating on just this plan.

However, at the present time it is not so much in these abnormal ways that savings to the paper manufacturers can be effected but in the old three standbys of paper plant design, proper plant operation and proper process steam application.

The United States has entered a new era. The depression has brought out all of our weaknesses of the past, and it can only be by reaching out and setting up entirely new standards that any industry will survive. This means that we must go far ahead of anything ever before dreamed of.—G. H. Mead, president Mead Corporation.

Wanted.... Unconventional Minds

"If you as a business man are willing to take your mind out of the class of the conventional, unoriginal thinker; if you are willing to grow up mentally; your business can and will earn a profit in 1931-1932 as well as in any other year."

By R. M. CARLSON
Business Analyst, The Sherman Corporation
New York, Chicago and Toronto

TIME and again we hear it said that man is a creature of habit. In fact, it is said so often, that we repeat the phrase without stopping to think just what it does mean, and so prove the truth of the statement of our very act.

What we really mean is that Nature, in adapting us to a highly complex environment, has made it possible for us to assign certain repetitive duties to an automatic, subconscious section of the brain, whereafter these acts are performed without the necessity of thinking of the motions we must go through to accomplish a certain task.

By this simplification of our mental processes, we are given more time to think of those acts which are not repetitive.

It is only because of habit that we are able to live at all. Suppose, for instance, in performing so simple an act as signing a check, it was necessary to first reason out the processes of banking, the uses of paper and its manufacture, the whole story of ink, the functioning and production of a fountain pen, etc. Obviously, the entire day would be spent performing a simple act, leaving no time for other things.

Unfortunately, the processes of habit were evolved for conditions other than those of our present complex civilization. True, we manage to exist after a fashion, but basically, our habits were evolved to give us enough to eat, clothing to keep us warm, and shelter to keep out the snow and the rain.

We have attempted, however, to assign to the habit section of the mind many functions of our daily routine, and have succeeded to a certain extent.

In doing this, we have failed to consider the complex, ever-changing nature of modern business. Robot-like, we go through the automatic tasks of our executive duties, using the habits which at one time relieved us of the necessity of thinking of each act.

But Change has been at work. Soon we find that even though we do everything as well as we have ever done it, something has happened. Profits do not come in as they once did. Sales are off. Manufacturing costs seem too high for going prices in the market.

What is wrong?

Simply that habit has us gripped too strongly to think our way out. We assume that because a process, a method, or a product, automatically and habitually produced, was once sound, it is still sound.

Because paper has always been made and sold in a certain way, there is little or no chance that it will be made and sold in any other way.

The lazy mind may feel that this statement can be ignored, the headstrong mind may attempt to defy it, the mistaken mind will try to circumvent its truth, but in the end, the alert, unconventional mind will find in it a real source of profit for his business.

The greatest need of the paper industry, and of all lines of business enterprise is for unconventional minds—minds that will refuse to be bound by habit into a set course.

The lazy mind, finding that he has enough food, that clothes are still available, and that snow and rain are not coming in the window, will sigh, and state in solemn tones that the present difficulties of his company are due to "conditions."

But the unconventional, alert mind will study and analyze those very acts which have become habitual by constant repetition. For in these acts will be found the greatest source of loss, and these functions will be those which have been affected most by change.

If you as a business man are willing to take your mind out of the class of the conventional, unoriginal thinker; if you are willing to grow up mentally; your business can and will earn a profit in 1931-1932 as well as in any other year.

The present conditions

This series or articles has already produced gratifying results in the solution of a number of perplexing problems. But it is believed that many executives in paper mills and allied industries are failing to take advantage of this exceptional arrangement, under which they are privileged to call on The Sherman Corporation, without cost or obligation, for counsel and advise on problems of manufacturing, distribution and management, provided that such problems can be handled by mail or in personal conference at their offices.

Few organizations are as well qualified as The Sherman Corporation to advise effectively on such problems. Their background of 20 years of working out business problems has given them a broad and comprehensive experience upon which to draw.

Their clients include many outstanding firms in the paper industry.

Address inquiries to any of their offices, mentioning this magazine or care of THE PAPER INDUSTRY.

are not wholly the result of the unpleasantness of October, 1929. Overproduction has prevailed in the paper industry for nearly a decade. Here are price index numbers for five years (1923-1925 = 100):

1925	1926	1927	1928	1929	1930
102.2	97.2	89.6	86.9	85.4	82.6

A recent check made by The Sherman Corporation of paper price declines shows that 1931 prices are less than 15 per cent lower than 1929 prices.

In other words, while the last two years have seen a decline in price, that decline is about the same as the decline in price for the previous four years. While the lazy mind may say that the present condition is responsible for slow sales, these same influences have been at work for the past five years. To say that paper could be sold in 1929 and cannot be sold in 1931 is to classify one as conventional and unoriginal.

Those companies which have consistently shown profits during the past five years are headed by men who have not followed blindly in the rut of routine. They are the **unconventional thinkers** who have refused to be stampeded by the cry of prosperity when prices were on the down grade, and who have refused to see only trouble in the present situation.

In other words, they have looked with seeing eyes, instead of staring from the force of habit.

To shake out of the present situation, it will be necessary to look at your own business with unconventional eyes. Take nothing for granted. Dig into every phase of it with an open mind. It will then be possible for you to guide your business into the channel of profit.

Advancing Forestry

Some Ideas and Experiments in the Reforesting Work of S. D. Warren Co.

By CAROLINE F. AUSTIN

EXPERIMENTAL, future business, and improvement of land acquired and used for their own timber work are all included in the reforesting and tree raising of the S. D. Warren Company in Maine. Raised from seed in their own Bingham Nursery, trees from sources all over the world were set out during 1930 on the Warren Company properties to an extent of 300,000. Methods for best raising the seedling trees, tests of trees adapted to northeastern United States conditions, and trees best able to resist some of the forestry enemies have all been made a definite part of the firm's program.

The varieties being raised by scientific methods and with all the advantages of special equipment within the enclosed grounds of the Bingham nursery include poplars from France, Ireland, the Siberian valleys and China; larch from northern Italy; elms of Manchuria; spruce from the West Coast and from Norway; while Maine pines, the predominant "primeval forest" are being supplemented by pines from the Macedonian hills, from Austria and Riga. All of these are being studied carefully, for the advance of forestry science, and the idea of timber or pulp profit is not close enough to this age to be the determining factor. Naturally this firm does consider the increase in valuation of their holdings from reforested areas, but they are also finding value in what is being learned of best development and care of forests, according to different varieties and their characteristics.

The nursery of the S. D. Warren Company—known for many years for their Warren Standard Printing Papers, extensively manufactured at Cumberland Mills, Maine—is at Bingham, on a site of the upper Kennebec valley. This forest engineering laboratory, as it has been called has now more than a million small trees in formal rows of exactness. In this tree nursery, one of the large ones of this section of the country, much is being done in regard to soil tests, records and tests of species, habits of growth for different trees, effects from varied sites, methods of growing.

For raising the trees from seed, the nursery has found best the planting under fine mesh wire to protect the seed. Automatic sprinklers are installed to use when artificial watering is advisable. Weeding and correct fertilizers hasten development. Screens of wood and fabric are used for several months of the young trees start from seed, at Bingham, to reproduce shade and softened light of natural forest conditions. The transplant board is always used in the Warren Company nursery for effectively moving the seedlings into even rows, six inches apart, when they are two or three years old. These transplants continue under supervision and tending for at least two years more before being set out in reforesting locations.

Two types of sites are most used by the Warren Company. One, the abandoned farms or the land of the company that has been cleared in timber and pulp cutting, and the second, the sample plots selected for test reforesting. For instance, there has been a place where killing by girdling of only 80 old useless widespread hardwoods gave splendid opportunity for the establishment of 1,000 valuable young softwood trees. Every possible furthering of natural reforesting through reproduction of softwoods has been acted upon for the Warren lands, but they also plant with their nursery stock all bare places from clean cuttings or abandoned fields. During the past 15 years the S. D. Warren Company has been acquiring its own woodlands, and now more than 50,000 acres in Maine belong to them, and are all being placed under these advanced practices of reforestation as used or available.

Current Thought by William Sibley

At the Bottom

WE have reached the bottom. In fact, the "big board" of the Stock Exchange, which is our chief business barometer, struck the bottom a month or six weeks ago. However, foolhardy it may be to lay one's self open to factual criticism, I am firmly of the belief that October 5 was the date when the big board plumbed the depths of our current depression. Doubtless, individual stocks will go lower; some of them perhaps go out entirely. But the big board as a whole, I believe, reached its low level (which was just as much the point of absurdity as October, 1929 was the peak of absurdity) —on October 5. We have now entered a new era— and having entered it, should realize that since every other major business depression brought radical changes in both life and industry—so this one will doubtless have, as its aftermath, equally far-reaching changes. Appreciation of this fact is naturally accompanied by the realization that those who are best able to foresee the coming changes will reap the greatest benefits from the immediate future.

During the past six months we have heard much about the "cleansing force" of business depression. People who should know better have advanced the thought that depressions have a beneficial effect upon business—by making everyone (employer and employee, alike) get back to fundamentals. Anyone who believes that would also believe the Kaiser's statement that a war now and then is good for a nation.

Depression is a mild form of destruction. Business depression not only destroys business, but invariably destroys our appreciation of standards of ethics. Every major depression in the past has had as its concomitant a lower standard of commercial ethics. People reduced to poverty and corporations faced with ruin seldom find themselves so inclined to follow accepted principles of a high order. During periods of trade readjustment, competition becomes unrestrained with the result that it loses all of its "blessing." After any prolonged period of commercial illness, very few of us favor the idea that it is best to leave things to the natural outcome of a policy based on the principle that the fittest will survive. It is during these times that we learn again the fact that frequently the survival goes to the strongest rather than to the fittest.

Since a period of depression brings forth unreasoning competition and the reduction of prices to unjustified levels, it also ushers into being the acceptance of lower quality. Products are wilfully cheapened in order to meet, more successfully, the unrestrained competition. This lowering of quality not only has a demoralizing effect on the producer, but on his sales force, his channels of distribution, and his consumer trade. Salesmen doubt their own stories; jobbers and dealers discredit the merchandise, and the ultimate consumer questions the integrity of the established brand.

Now that a new era is commencing, we must expect a right-about-face in many directions. However, many of the developments in the next year or two will differ materially from those that have taken place in previous business cycles. Because of the widespread interest in stock speculation during the past few years and because of our vastly improved means for disseminating information, the masses to-day are much more intelligent than they were in comparable periods of history. People in general have accumulated a good working understanding of the elemental principles of economics. They can think for themselves. The public has developed an entirely new viewpoint which, in most part, is opposed to the old idea that life and business will automatically adjust themselves.

In looking ahead, therefore, to the new era of normal business, we should keep firmly in mind the revolutionary changes in business thought and practice. The fact that at least one-third of our population knows business (at least to the point of recognizing its short-comings) means that this business depression is to be followed by a recovery which will be guided by a force entirely new to us. For the masses to have become economically-minded will mean that Business must, of necessity, establish a new, and better set of morals. Many things that could be sanctioned a few years ago must now be recognized as dishonest and unfair. By reason of mass education, the day of mass exploitation for private profit has largely passed.

A new and strangely large percentage of American people know, now, that it is dishonest to force the prices of stocks to a high level, then unload those inflated equities on an uninformed public. A tremendous number of our people are now taking a strong stand against the practice of capitalizing certain kinds of information (such as comes naturally to corporation directors, brokers, politicians, and the like) to the detriment of the public.

We have finally arrived at that point of understanding of our capitalistic system where we now know that something must be done to place all parties to important agreements on an equal footing. By that I do not mean to infer that we shall ever destroy the possibility of reward to those who exercise superior foresight or judgment. But I do mean that some day there **must** be an arrangement which will permit the finger of the law to be placed on the shoulders of those who profit themselves from secret information to which they have no exclusive right. For instance: corporations whose stocks are listed on the big board **must** make their reports so complete that no important fact is hidden from the prospective investor. We should recognize that with increasing knowledge of economics on the part of the public, we shall doom to failure our whole social structure unless we presently establish means to eliminate such forms of dishonesty as are now outside the bourne of existing laws.

Some Suggestions for Improvement

Some of the economic changes which I should like to suggest for the thoughtful consideration of everyone are those listed in the following paragraphs. Having struck the bottom of our business depression and being now on the up-climb, it is time to consider these changes—the institution of which will make a repetition of similar depressions more difficult.

There must be brought about some means for the elimination of public distrust of our banks. The safety of deposits must be assured, and the public's faith in its security re-established. Surely, by this time, we have seen the absurdity of the policy which compels banks to keep themselves 70 per cent liquid. Practically no bank can make money when its liquidity exceeds 30 per cent, yet our banking laws prohibit such percentages, with the result that in times of difficulty, our financial institutions add to the burden of the emergency and intensify the reasons for depression by forcing the wholesale movement of good securities at prices which presently are absurdly low. Our banking system must be changed, probably to the extent where all banks doing interstate business, will come under the Federal Reserve System.

Railroad taxation must be reduced in substantial amount. Additionally, there must be some means established for relieving the railroads of the obviously unfair competition afforded by other transportation agencies. While means of transportation, in some lines, has been perfected to a point where railroading is now obsolete, we have not arrived at the point where we can abandon our rail system—nor even permit the continuance of unfair competition. Economic prosperity is still utterly dependent upon railroad prosperity, and at the present time, railroads are not prosperous.

We should now be able to see that the Agricultural Marketing Act, with its consequent Federal Farm Board, has done little or nothing beyond setting up a deficit in the United States Treasury. There should be an about-face with respect to agriculture. The farm co-operative organizations should again be permitted to function as private ventures, repaying as rapidly as possible, the loans that have been made to them. Government ownership in all fields of commercial endeavor should be abandoned. Our present system of government precludes the possibility of successful governmental operation of anything commercial. And the experience of our neighbor nations in this regard clearly indicates that government ownership, under any system now known, is a failure.

Due to the recent action of Great Britain, Denmark, Poland, and other countries, we will soon be witnessing wide discussion of international money standards. Realizing that probably our established gold standard will be seriously questioned, we should keep it firmly in mind that the introduction of any system of "controlled currency" would greatly deteriorate our own financial reserves.

We are rapidly approaching the time when there will be international discussion of debt cancellation. With the expiration of Mr. Hoover's "moratorium" the whole subject of international debts will come up for rehash. Probably the debts owing us should be revised downward in the interest of international security. But cancellation would throw a burden on the United States from which it would take years to struggle.

These are only five of the multitude of problems confronting us—as a nation. They will be subjects for extended study and debate among our administrators who are obligated with the responsibility for providing the means for national progress.

It is devoutly to be hoped that whatever corrective measures are to be taken will be carried through to completion while the country is yet feeling the effects of the recent business upset and still in the humor to do something that will put to an end these utterly senseless cycles of destructive inflation and deflation. Perhaps it is too much to hope for—that the average citizen will throw overboard his ancient and cherished notion that free competition is the life of trade. Perhaps he won't do it. But whether he does now—or must suffer another needless period of misery to learn his lesson—we have abundant evidence on every side of the urgent need for courageous pioneering and experimentation in our economic life. The cardinal reason for our industrial progress during the past century is to be found in the simple fact that we have steadfastly refused to let well enough alone, and have gone ahead trying out innovations and experimenting with new things—promptly discarding that which was inefficient or obsolete. There is much to be done with our whole economic structure before it has reached even tolerable perfection. Let us take the occasion of the bottom of the slump to build as we rise to normal business.

Twentieth Annual Safety Congress

Chicago Again Host to Large Delegation of Safety Enthusiasts—Paper and Pulp Section Holds Inspiring Sessions

TO mark the twentieth annual gathering of the National Safety Congress, safety specialists gathered at the Stevens Hotel in Chicago, October 12 to 16. A smaller attendance than that of some former meetings had no effect whatever on the interest. The sessions were well attended by those present and constructive work was laid out by each section for the coming year.

Annual Meeting of Members

The congress opened with the annual meeting of members of the National Safety Council, which was called at 9:30 Monday morning in the Grand Ballroom of the hotel.

In the absence of Mayor Cermak of Chicago, Robert Schweitzer, Clerk of Cook County, welcomed the delegates to the city, and assured them that regardless of any erroneous impressions they may have received regarding Chicago, they need have no apprehensions for their personal safety during their stay in the city. President C. W. Berquist, of the National Safety Council, responded to the address of welcome.

President's Address

In delivering the opening address of the Congress, President C. W. Berquist reviewed the progress that has been made in the prevention of accidents, but admonished the members there is yet much to be done before reaching the goal of "Universal Safety."

President Berquist spoke of the large number of accidents on the highways and in this connection brought out that power without responsibility is one of the underlying causes of accidents. He deplored the laxity of our country in the punishment of lawbreakers. The public is slow to penalize the lawbreaker, the careless driver, and the only crime considered real is that of being punished. He emphatically stated that disobedience to laws and a lack of consideration for others should be classed as traits of criminality. The price of safety training is the denial of personal liberty wherever it interferes with the safety of others.

The National Safety Council's part in the solution of the accident problem is to stimulate the subject of safety education, and supply its members with the necessary information to carry on the movement to reduce accidents. It is oftentimes felt that legislation is a remedy for all evil, but there are already many laws provided for our living safely and happily but they must be obeyed. The Council has no legislation, but is merely an educational institution. It has the privilege to encourage and support sound legislation and secure enforcement but the limits of the laws must be recognized. The strongest appeal is to the hearts and minds of men, and management must realize its responsibilities. The State and insurance companies can exercise little improvement in industrial plants. The improvement must come from within the organization.

In closing, President Berquist made an appeal for an active, not a passive attitude toward safety.

President Hoover Sends Greetings

Following the report of committees and transaction of general business, Mr. Berquist read the following message from President Hoover, in which he deplored the enormous accidental annual death toll in the United States:

"Although substantial progress has been made in diminishing industrial accident rates, one cannot complacently contemplate the fact that there are still 99,000 accidental deaths a year in the United States as well as a vast number of injuries. There is clearly a tremendous field still for organized efforts to promote accident prevention, especially in the home and on the highways, and to a considerable extent in industry, in spite of a decrease of one-third in industrial accidents in the past two decades. The fact that there are 33,000 motor-vehicle deaths annually in the United States is a challenge to the efforts of safety organizations and the co-operation of every motor-vehicle operator. The National Safety Council renders a conspicuously important service in promoting safety measures. Please present to its members gathered for the annual Safety Congress in Chicago my congratulations on their achievements. I trust that the meeting may be conducive to still greater effort to safeguard human life and property."

The Necessity of Human Conservation

A most inspiring address was delivered at this session by Samuel Insull, Jr., president of the Midland Utilities Co., Chicago, and chairman of the newly organized Advisory Committee of the National Safety Council. Mr. Insull's subject was "Human Conservation—A National Necessity."

In answer to the question "Who is responsible for safety?" Mr. Insull stated that since the conservation of human life is a national problem, the responsibility includes every individual, and that the National Safety Council is the natural and national leader in this work. All real progress depends on such guidance. Some body of persons must shoulder the responsibility for fanning the flames of public consciousness and keeping the true picture before the American people continuously. The speaker made reference to the fact that 80 per cent of all accidents are said to be due to the personal acts of human beings. The teaching of principles of accident prevention and the permanent establishment of safety habits is our most difficult problem to-day.

Presentation of Contest Trophies

At this time, President Berquist announced that four sections of the Council, namely, Metals, Paper and Pulp, Public Utilities and Petroleum had conducted safety contests during the past year, and trophies would be presented by him in behalf of the National Safety Council to the winners.

In the Paper and Pulp Section, five trophies were awarded, one to the mill in each group which had made the best safety record during the six-month period of the contest ending June 30, 1931. The winners were:

Division I—Paper and Pulp Mills

Group A—Kimberly-Clark Corp., Falls Mill., Niagara Falls, N. Y.

Group B—The Champion Coated Paper Co., Hamilton, Ohio.

Group C—Consolidated Water Power & Paper Co., Appleton, Wis.

Group D—International Paper Co., Riley, Maine.

Division II—Remanufacturing Plants

Bemis Brothers Bag Co., East Pepperell, Mass.

Mr. Fritz Awards Major Trophy

Following the presentation of the group trophies, Mr. Berquist announced that seated on the platform was one who had for a number of years taken an important part in the safety work of the Paper and Pulp Section, and although well-known to many of the audience, he had the pleasure of introducing Mr. Edward B. Fritz, publisher of THE PAPER INDUSTRY.

For the past seven years, Mr. Fritz has annually been the donor of a major trophy which he has presented to the group winner of the Paper and Pulp Section having the most outstanding safety record for the contest period, according to the decision of a committee of judges.

In responding to Mr. Berquist's introduction, Mr. Fritz expressed the pleasure and satisfaction he had received from having a part in the activities of the section. He read some comparative accident statistics of mills that have participated in the contests of the Paper and Pulp Section for the past several years, and in presenting the major trophy said:

"This is the seventh year that it has been my pleasure to award the major trophy to the group winner which has been

voted by the judges chosen as having the best safety record for the contest period. It is now my privilege and pleasure to award this plaque to The Champion Fibre company of Hamilton, Ohio. This company, belonging in Group B, had a no-accident record for the six-month period with 482 employees working 651,603 man hours."

Kenneth Faist, of The Champion Fibre company, received the trophy and in a few well-chosen words, thanked Mr. Fritz in behalf of his company and pledged their continued efforts in the cause of safety.

The meeting was then adjourned and most of those present remained to the All Congress Luncheon, which immediately followed. This was a most delightful occasion, the inviting luncheon made more enjoyable by the presence of musical entertainers and a witty after luncheon talk by Wm. Dornfeld, an Australian humorist.

Representatives of Paper and Pulp Mill winners in 1931 Safety Contest
Left to right—G. E. Runcie, Champion Coated Paper Co.; George J. Adams, International Paper Co.; Kenneth L. Faist, Champion Coated Paper Co.; J. J. Plzak, Consolidated Water Power & Paper Co., new chairman of Paper and Pulp Section, and W. C. Baker, Kimberly-Clark Corp.

One of the principal attractions of the Congress was the exhibit of safety equipment and supplies displayed in the exhibition hall of the hotel. Practically every device known for the protection of industrial workers was represented. General satisfaction was voiced by those manufacturers participating, because, although the attendance at the Congress was smaller than on some previous occasions, the results were no less gratifying. Many valuable contacts were made and this part of the program was voted highly successful.

Always a prominent feature of the exhibit, is the National Safety Council's Library and Information Bureau. Here is displayed the most complete collection of safety literature to be found anywhere, and the attendants are able to obtain for visitors almost any information and statistics desired.

The U. S. Navy booth drew attention to a model of the new dirigible U. S. S. Akron and its new type hangar. Mr. Televox, the mechanical man who does everything but think, was on guard at the Westinghouse booth where was also to be found the photoelectric cell, or "electric eye." The Elliott Service Company presented its posters and bulletins which are familiar to most paper mill workers, and the Jewell Emblem Mfg. Co., who have for several years designed and made the trophies presented to contest winners, had on display an attractive collection of safety buttons, emblems and badges.

There were booths exhibiting safety clothing and shoes, antiseptics, first aid equipment, masks and goggles, safety glass, non-slip flooring, electric signals and devices, fire extinguishers, and various educational organizations interested in health and welfare work.

President Berquist Re-elected

Carl W. Berquist, superintendent of public relations for the Western Electric company, Hawthorne Works, Chicago, was elected president of the National Safety Council for his second consecutive term. Mr. Berquist has been a resident of Chicago since 1894 and has long been identified with civic affairs. He is an active worker in most of the leading civic and philanthropic organizations of the city, and for several years has been president of the Chicago Tuberculosis Institute.

PAPER AND PULP SECTION—TUESDAY

The number of delegates registered for the Paper and Pulp Section was less than the attendance for the past several years, and many well-known faces were missing. But the meetings suffered no diminishing of spirit—the discussions were lively and every one present seemed to have brought some good ideas which apparently were the fruit of much constructive safety thinking.

Resumé of the Year

At the section's first meeting on Tuesday morning, Chairman W. J. Brennan presided and opened the meeting by giving a resumé of the year's activities. He spoke of the meeting of the Executive Committee at Boston last winter, and mentioned that among other subjects up for consideration the most important was that of section set-up. Following suggestions from the National Safety Council, the committee voted to recommend to the section that the list of officers be curtailed; that only two vice-chairmen be elected, and regional directors dispensed with.

The value of the News Letter as a medium for maintaining contact among the members during the year was brought out forcibly by Mr. Brennan. He believed the News Letter should be amplified to take on a technical angle, and made a strong appeal for the pursuit of a definite object by the section through the coming year.

In summing up the year's activities, he called for short reports from delegates as to what had been done in their respective territories.

Speaking for Wisconsin, H. D. Banta, of the Hoberg Paper and Fibre Co., Hoberg, reported very efficient work being done by the pulp and paper section of the Fox River Valley Safety Conference which meets jointly with the Lake Shore Conference. The work is very well organized in all of the plants, and a recent meeting at Fond du Lac registered over 200 paper and pulp delegates.

J. J. Hastings, of the Port Huron Sulphite and Paper Co., Port Huron, Mich., stated that very little had been done in their plant during 1929 and 1930, but during this year some safety work has been done which has resulted in a reduction of accidents. They have started a movement to have a safety meeting in Detroit sometime during 1932.

George J. Adams, of International Paper Co., New York, stated that while some of their mills in the State had only been operating part time, they felt the safety record had been kept up to standard. They have eight plants located in New York, including some of the largest mills in the State. Mr. Lundrigan, also of the International Paper Co., reported that he had taken up with Sam Pruyn, of Finch, Pruyn Co., Glens Falls, in regard to holding a pulp and paper conference following the meeting of the State Department of Labor in Buffalo on November 15.

Miss Emilie Raub, regional director for Pennsylvania, resigned following the meeting of the Congress last October. W. A. Gleason, of Hammermill Paper Co., Erie, was called upon to report anything from that section. He spoke of the successful meeting of the Pennsylvania conference at Erie last fall. Following a recommendation made at that meeting, the State of Pennsylvania inaugurated a campaign to mark off accident peaks which occur in March and October. This resulted in a lower accident rate for March than ever before in the history of the department (15 years). The October campaign is now in progress and it is believed it will show a considerate decrease.

From far away Newfoundland, S. K. Smith, of the Corner-brook mill of the International Paper company told of their work. They have a well organized safety committee which makes a very thorough investigation of each accident. Mr. Smith spoke of the peculiar hazards they experience in Newfoundland due to severe winter weather when shipping must be abandoned and paper stored in warehouses until spring. When shipping is resumed, about 125 men are employed for loading and shipping, and a large percentage of these men must be broken in every spring, increasing their accident hazards. But they have eliminated much of the trouble, and this spring only had one accident due to loading. In August they employed about 1,000 men in the plant and had a no-accident record for the month.

Chairman Brennan announced that he had word from R. H. Scanlon, regional director for the Pacific Coast that owing to a change in his business connections he would no longer be located at Powell River, and was unable to be present at the meeting. He called upon E. R. Brown, safety director of the Crown Willamette Paper Co. for the past 14 years, and who has recently been made general manager of the Columbia Basin division of the National Safety Council, to report what is being done on the coast.

Mr. Brown told of the particularly stringent compensation laws in effect in the Coast states by which woods and paper mill hazards are rated differently. But the mills are actively engaged in safety work and the safety meetings held there have been very well attended. He mentioned the value of the suggestion plan and told of a unique method one mill had used to overcome the difficulty of getting men to offer suggestions and sign their names. Each suggestion blank carries a stub upon which appears the same number shown on the blank. The employee making the suggestion retains the stub and in this way no one is aware of the name of the party making the suggestion. The men realize that suggestions are accepted purely upon merit and not due to a desire to favor the individual making the suggestion. One mill saved $30,000 in mechanical improvements alone during one year, aside from its safety work, by using this method. When they traced the source of these suggestions, they found they had come from the rank and file, the men in the mills.

H. G. Gilson, Oxford Paper Co., Rumford, Me., secretary of the section, made a brief report. He thanked the section for their co-operation and stated that every communication received by him had been answered and information given in each case to the best of his ability.

A brief report was given by A. Scott Dowd, chairman of the Contest Committee. A more detailed form of Mr. Dowd's report will be found in the account of the Luncheon Meeting of the section for Thursday.

In closing this resumé, Chairman Brennan thanked the section for its support during the past year, and stated that owing to having severed his connection with the St. Croix Paper Co. to become safety director for the State of Maine, he would no longer be connected with the section officially. He hoped the section would undertake an objective for the coming year and develop some outstanding piece of work. He brought out that there are many difficult problems still unsolved, but they must be tackled.

W. A. Gleason, of Hammermill Paper Co., moved that the section offer a resolution of thanks to Mr. Brennan for his efforts during the past year as chairman of the section, and for his research as a chemist in handling liquid chlorine; also congratulations on his new connection. This resolution was unanimously carried.

Paper Machines and Safety

Allan Hyer, of The Black-Clawson Co., Hamilton, Ohio, paper machinery manufacturers, gave an address on "Safety on the Paper Machine," which was very interesting, and illustrated with stereopticon slides, showing the improvements his company has made the past few years in modernizing and guarding its paper machines. Unfortunately, many of the old machines are still in service, but the present trend seems to show that the end is in sight. Many old machines have been rebuilt and modernized, but in spite of all that has been done to guard paper machines, an occasional injury cannot be prevented. In the past, operators have been compelled by machinery builders to work under hazards. The machines of the past have been put together with no regard for lightening the work of the operator or for his safety and many accidents on the old machines attributed to carelessness are sometimes due to the fault of the machine.

A number of questions were put to Mr. Hyer about the advisability of placing guards on certain points on the machines that were illustrated.

The Trend of Accidents in the Industry

E. E. Grant, chairman of the Statistics Committee, was the first speaker of the afternoon, his subject being "Trend of Accidents in Paper and Pulp Industry." Mr. Grant displayed a chart which he had prepared showing the performance of the Section from 1927 through 1930, as to men employed, hours worked, lost-time accidents and number of days lost. Also the trend of Groups A, B and C for that period as to lost-time accidents. This chart is reproduced herewith.

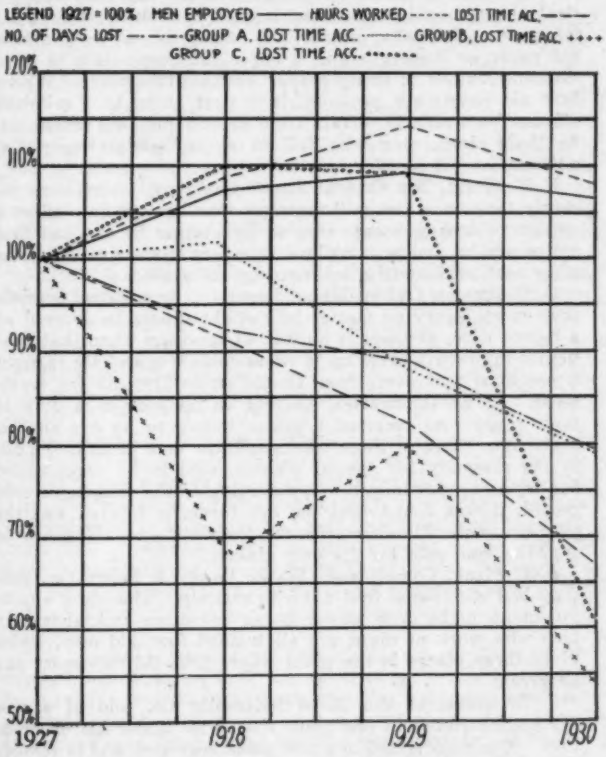
Mr. Grant also read an editorial entitled "Safety Accomplishments" from the October issue of THE PAPER INDUSTRY which brought out some interesting figures on accident reduction in answer to an assertion from the editor of the New York Times that accident prevention engineers have not been able to accomplish anything toward reducing the number of deaths in industry.

Some of the figures contained in this report proved quite interesting and informative. Records of 115 companies that have reported in each of the last three years show that lost-time injuries per million hours worked declined 17 per cent from 1928 to 1930. All but two per cent of this reduction, however, occurred from 1929 to 1930. While the decrease in frequency indicated for our section is considerably less than the average of 28 per cent for all industries, our reduction in severity is far larger, being 28 per cent in comparison to only eight per cent for industry as a whole. We can regard the decreases in our injury rates with considerable satisfaction because activity in our mills, as indicated by reduced working time, declined only three per cent from 1929 to 1930 in comparison to an average of 17 per cent for all industries.

The report further brought out that most outstanding in the experience of our three-year identical plants was the decrease of 29 per cent in the frequency of fatalities. This is three times the average reduction for similar injuries in all

industries, and largely accounts for the improvement in our severity rate. On the other hand, we were not quite so fortunate with permanent partial disabilities; the frequency of the permanent partial disabilities during this period was accompanied by similar variations in the severity of such injuries. We can also point to a sharp decrease in our minor lost-time injuries, temporary disabilities, during the last two years, but unfortunately, no reduction in their severity. On the whole, identical plants in only a few industries have equaled or exceeded the reductions made in the paper and pulp industry.

In spite of the continuous progress which we have made from year to year, however, we still have much ground to



Trend of Accidents in the Paper Industry during 1928, 1929 and 1930

cover before we are one of the safest industries in America. Our 1930 frequency rate was 23.65 in comparison to 18.47 for industry as a whole. We are having, therefore, about five more lost-time injuries per million hours worked than the average. Our severity rate, however, makes a better comparison, being 1.89 against 1.97 for industry as a whole. We have, for example, much lower severity rates than the steel and cement industries, although these industries are among the five with the lowest frequency rates. In comparison with 28 major industries, the paper and pulp industry ranks twentieth in frequency and thirteenth in severity.

An analysis of the records of members in various divisions of our section show that manufacturers of envelopes and other paper goods have much lower frequency and severity rates than other classifications. Paper and pulp mills, on the other hand, have the highest injury rate, ranging from no-accident records to frequency rates of more than 100.00 and severity rates of 12.0 and 13.0. Rates for paper box and container manufacturers also have a wide range and their average rates are only slightly lower than those for paper mills. Fatalities are most frequent in paper and pulp mills, whereas paper box and container manufacturing establishments have the highest permanent partial disability rate. Our miscellaneous paper products division, composed of 46 plants with an exposure of over 30,000,000 man-hours, deserves credit for going through the entire year without a single fatality.

Some excellent no-accident records for the entire year were made by individual plants in all branches of the industry. Of the 24 no-accident records reported for 1930, a tissue paper plant had the largest exposure—584,000 man-hours. A paper mill which worked 582,000 hours led its division of 150 plants by going through the year without a single lost-time injury. The largest paper box and container manufacturing establishment to make a no-accident record worked 327,000 man-hours.

The statistics of our section are increasing in reliability each year. In response to requests for 1930 reports, we received the records of 232 plants with an exposure of almost 210,000 man-hours. In no year since the organization of the section, have so many plants reported to headquarters. The gain over 1929 was 17 plants and 13,000,000 man-hours of exposure. The number of our identical plants on whose records we must base the progress of the section in accident prevention work was half of the total number reporting for 1930. This growth and consistent reporting shows very active interest by members in their own records as well as in the work of the section. We hope that the 77 members who have not yet co-operated, will add their experience for 1931.

Hazards in the Board Mill

An illustrated address was given by Arthur Murray, of Container Corporation of America, Chicago, on the subject "Hazards Peculiar to the Boxboard Industry." Special interest was manifested in Mr. Murray's remarks due to the fact that boxboard mills now participate in the section's contest, being classed in Division II.

Mr. Murray's talk was illustrated with stereopticon slides, showing views of the company's various mills, how straw is received and piled in ricks in the yards and several interior views.

A number of charts were also thrown on the screen, which material furnished the basis of Mr. Murray's talk. These charts were made up and are used by the Container Corporation in its safety work.

The first chart was An Outline to Managers, setting forth standards of procedure for accident prevention. The major subjects listed on this chart were: labor control, job and occupation analysis, planning, supervision, and direction or managing.

Another chart was an Occupational Analysis for Foremen, classifying the jobs in each department presenting the greatest exposure to accidents, pointing out the danger points of each operation, special safety instructions and rules, and selection of workmen with regard to skill, physical qualifications and mental capacity.

A series of charts listed typical accidents which have occurred in the paper mills. A summary of the most common of these accidents is given herewith:

Wet End—Crushed feet from fall of lever weights; crushed fingers and hands caught in felt wringer rolls and press rolls; eye burns from careless handling and splashing acid in washing felts; puncture wounds and infection from needle, repairing felts and cylinder wires; injuries received from falls off defective ladders, putting belts on fast moving pulleys, etc.

Calenders—Nipped fingers, strains due to slipping, and foot injuries.

Dryers—Burns, punctures from dryer hooks and falls.

Re-winders—Nipped fingers and crushed hands.

Reels—Injuries to eyes from silicate and paper cuts; broke truck accidents to feet, legs and body; strains and body injuries from being hit with roll paddle; touching slitter knives when picking up shavings; body injuries received from careless handling of rolls, protruding collar shaft set screw, falls on slippery floor, etc.

Slitters—Strained backs from handling roll shafts and bundles of sheets; eye injuries and punctures from steel shavings.

Beater Room—Injuries to hands while breaking down bales, due to glass, razor blades, etc.; slipping on wet floors; punctures to eye, face, hand and body from bale wire; standing on stock in beater, pulled into beater; foot injuries and body contusions.

The interest in these charts was sufficient that it was felt it would be advantageous to publish them in The News Letter

at an early date. This suggestion was put in the form of a motion and unanimously carried.

New Officers

At the close of the discussion following Mr. Murray's talk, Chairman Brennan asked for the report of the Nominating Committee, and Kenneth Faist, chairman of the committee, read the list of those nominated to fill offices for the coming year.

Upon motion which was seconded and unanimously carried, the report of the committe was accepted and the following officers elected:

General Chairman—J. J. Plzak, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis.; Vice-chairman—George Roller, Rhinelander Paper Co., Rhinelander, Wis. and Arthur Murray, Container Corp. of America, Chicago; Secretary—H. D. Banta, Hoberg Paper & Fibre Co., Green Bay, Wis.; News Letter Editor—D. C. Hunter, Oxford-Miami Paper Co., West Carrollton, Ohio. Committee Chairman: Membership, N. F. Bartlett, Hollingsworth & Vose Co., Boston; Publicity, J. J. Hastings, Port Huron Sulphite & Paper Co., Port Huron, Mich.; Statistics, E. E. Grant, Crystal Tissue Co., Middletown, Ohio; Program, H. G. Gilson, Oxford Paper Co., Rumford, Me.; Poster, J. M. McGivney, Brown Co., Berlin, N. H.; Health, Dr. L. F. Frechtling, Champion Coated Paper Co., Hamilton, Ohio; Contest, A. Scott Dowd, THE PAPER INDUSTRY, Chicago; Engineering, Ernest Augustus, The Mead Corp., Chillicothe, Ohio. Members at Large: Kenneth L. Faist, Champion Coated Paper Co., Hamilton, Ohio; W. A. Gleason, Hammermill Paper Co., Erie, Pa.; John Lundrigan, International Paper Co., New York, W. J. Peacock, Northern Paper Mills, Green Bay, Wis.; Samuel Pruyn, Finch, Pruyn & Co., Glens Falls, New York; F. H. Rosebush, Nekoosa-Edwards Paper Co., Port Edwards, Wis.; B. D. Rogers, Bird & Son, East Walpole, Mass.

Questionnaire blanks had been sent to all members of the section prior to coming to the Congress, and at this time Chairman Brennan announced that although the number of questions turned in for discussion was very small, some very good ones had been received, and would be brought into the meeting for discussion during the time remaining for the afternoon session. Those unanswered would be given out to be considered by members in groups on Wednesday, as no sectional meetings were scheduled for that day.

Questions Discussed

The first question read was "What is to be done with the employee who refuses to go to first aid at time of accident or his foreman that does not control or handle the situation?"

John Lundrigan said assuming the employee had been given the proper information and advice, the foreman should be demoted and the employee dismissed. Accident prevention cannot progress in a plant where the foreman is not interested in controlling his own crew. J. J. Plzak was of the opinion that it was largely a matter of discipline, to which Chairman Brennan agreed, stating it was up to management entirely and the question would not be solved until management exercised its full duty in this regard.

Another query, "Is there not some way whereby the efficient mill can assist the safety man in a mill where he is having difficulty although he is doing all that he can?" implied that the question came from a man who is not getting managerial co-operatinon.

F. H. Rosebush believed a man in such difficulty should feel no hesitancy in writing to any mill which he felt could assist him, as there would be no question about his getting help from anyone. He referred to statements made in former meetings that the safety director should be answerable to the highest officer in the company organization. It is part of the safety man's job to keep that connection between himself and the highest executive or he will be at a loss. His success lies in the manner of approach to this executive which must be made from a financial angle. Safety material must be presented to executives in such a way as to make them see it, and the presentation must be different than that made to the employee.

"Which is more advisable, all things considered, for a man to treat minor cuts and scratches from first aid kits, or have him spend 15 or 20 minutes going to first aid room and getting treatment from the doctor or nurse?"

E. E. Grant thought the 15 or 20 minutes spent going to the first aid room was more advisable. The question of night treatment was brought out by George Adams, of International Paper Co. He stated they did not have first aid boxes spread around the plant but insist on men going to the first aid room. They have a plan of making someone responsible for first aid treatment at night. There is always someone on the night force that has been trained in the rudiments of first aid.

M. G. Hoyman, of Kimberly-Clark Corp. felt that much depended upon the size of the plant, and he believed where practical there should be a first aid room with nurse or doctor and where the crew is so small as to make this plan impractical, there should be someone trained to look after first aid treatment. In many plants, it is impossible to keep a first aid nurse or doctor, but it is not at all impossible to have someone trained to apply proper first aid treatment. Where first aid rooms are provided, it is next thing to a criminal offense for a man to refrain from getting first aid treatment. In their plant, men who fail to do so are seriously disciplined.

E. E. Grant, The Crystal Tissue Company, stated they recently took on a new mill manager who has put into effect a system of having a man sign a slip stating he has had first aid treatment and he is obliged to report to the first aid room after each shift until discharged by the attendant.

D. C. Hunter, Oxford-Miami Paper Co., is a strong believer that every injury no matter how slight should be entered on a record card, as there is no way of knowing when that particular injury will come up to cause some trouble. He thought it essential that every man should go to first aid for treatment. As an illustration, he told an instance of a man in their plant who received a minor injury to an eye several years ago. Two or three weeks ago, the man presented a bill to the company for special glasses, said to be necessitated due to the former injury. By referring to the company's card record, it was found that the eye formerly injured was the left eye, while his claim was for the right eye. Needless to say, the man paid for his own glasses.

J. J. Plzak, Consolidated Water Power & Paper Co., said they had eliminated first aid kits entirely. The night superintendent, night crew power house operators and laboratory men who work at night are all trained first aid men, which gives three places in the plant where first aid treatment can be given.

J. L. Stone, of the Globe Indemnity Co. told of a new system instituted in one plant that came under his observation. The reports had in a few cases been lost, and to remedy this a red card was provided on which the name of the injured man was written and filed in the time clock. A copy of the card went to the foreman of the department. Before the man checked out that day he was expected to report to the first aid room for a check-up on his injury and this has resulted in avoiding complications from minor injuries.

"What has been found to be the best safeguard against splinters in the hands due to men handling lumber, wooden crates, etc? Are leather hand pads or gloves advisable?"

Arthur Murray, Container Corporation of America, said their men wore gloves while sorting waste paper as a protection against glass, particles of steel, etc. Gloves will not stop a splinter, but they will help some. He also said that the men in the lumber industry use hand pads universally.

J. L. Stone, of the Globe Indemnity Company told of how some plants had contrived to make hand pads from discarded inner tubes, and if the rubber is not too dead it is very hard for slivers to puncture this material. Pads can be cut to protect the entire surface of the hand.

The last question read before the close of this session was: "Will the section do something about the problem of guarding nips on rolls, particularly calenders, pressure and supercalenders, as a major project this year?"

Chairman Brennan read this question and commented on it by stating that he felt this would be a very worthy objective for the section to take up for the coming year. It is a big job. Much has been done, but there has been a degree of failure. Somewhere, somehow, either by individual effort or group methods, if we can solve this problem, it will be a very

worthy accomplishment. We are handicapped by various weights of paper, different types of machines, and the code offers very little help to the man who is looking for that kind of a code.

After a considerable discussion of this matter, J. J. Plzak suggested that a committee be appointed to make an exhaustive study of the question and that as near as possible strive to complete the work within the year and give a full report of progress at the next Congress. This suggestion met with quick response, and resulted in Chairman Brennan appointing such a committee. The following men were chosen: George Adams, International Paper Co., New York, chairman; Kenneth Faist, The Champion Coated Paper Co., Hamilton, Ohio, and J. J. Plzak, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis. The chairman also specified that the committee appeal to Mr. Dean Kiefer, of the National Safety Council, to appoint a council representative to serve as a member of this committee.

THURSDAY'S SESSIONS

Due to the inability of W. J. Brennan to attend the Thursday morning meeting, Vice-chairman M. G. Hoyman of Kimberly-Clark Corp., Neenah, Wis., presided. In his opening remarks, Mr. Hoyman complimented the section on having elected J. J. Plzak as chairman for the coming year, and from the chair assured Mr. Plzak of the earnest co-operation of the membership. Mr. Plzak responded and pledged his wholehearted endeavor in carrying out the work of the section.

Electrical Hazards in the Paper Mill

The first address of this session was given by H. D. Banta of the Hoberg Paper and Fiber Company, Green Bay, Wis., who spoke on "Electrical Hazards in the Paper and Pulp Industry."

Mr. Banta led into his subject by pointing out that every industry has processes peculiar to itself which produce hazards different from those of any other industry. In reviewing locations where it is often necessary to operate electrical apparatus, it is necessary to equip every kilowatt that ventures into a paper mill with an asbestos suit to keep out the heat, a raincoat and rubber boots to keep out the water, a gas mask to keep out the sulphur and chlorine gases, and a suit of armour to protect them from misuse by the mill workers.

The speaker discussed the breakdowns of electrical equipment, because he believed the same cause which terminates in breakdowns introduces hazards. For example: assume a motor is not properly grounded in a moist place or near steel structures, and through the careless use of water the insulation breaks down as a worker puts his hand on the motor frame. It would be possible to receive a shock which might prove fatal. This is true of all electrical apparatus. When we eliminate breakdowns, we also eliminate hazards.

It was brought out that the acid room is another place where special insulation is necessary because of the combination of sulphur, lime dust and moisture.

Where mills furnish their electric power at the mill, the hazard of high voltage is eliminated, but when power is purchased, voltages of 4,400, 14,000 and higher are on the premises, and special care is necessary to protect employees from contact with it. A liberal use of danger signs, together with segregation under lock will help. Transformer banks whether in a substation or in the mill, should not be accessible to anyone except qualified electricians. The shell should be adequately grounded and proper danger signs displayed. Switch boards should be enclosed by a fence or other barrier under lock, and only specially trained men allowed to enter the enclosure.

Other matters that should be watched carefully, are: Old style circuit breaker handles should be properly guarded so they will not strike attendants when operating. All electric circuits should be in conduit which is properly grounded. This work should be done under the supervision of a qualified man and all joints inspected by him before being taped.

The overloading of circuits was said to be a common fault in most paper mills, due primarily to failure to anticipate future requirements. This tendency should be discouraged, as overloaded circuits cause heating, breaking down of insulating material, blowouts and often a source of shock, burns, flashed eyes and fire.

The speaker brought out the danger of lighting circuits which have the name of being harmless on account of the relatively low voltage. This is not true under all conditions, especially where AC three wire systems are in use, as a short between the two outside wires would give a voltage of 220 volts. A ground from either outside wire gives a voltage of 110 volts, which is sufficient under ideal conditions to cause a severe shock. Most mills do not give lighting the attention it deserves. Much haphazard lighting still exists. Proper attention to illumination increases efficiency. Dark corners

Major trophy awarded by THE PAPER INDUSTRY

about electrical control should receive special attention. If the management wants to stimulate housecleaning, let them insist on plenty of light in the out of the way places. Paint every corner white.

Mr. Banta emphatically stated that men should never use lamp or brewery cord for extension lights about a paper mill, as the hazard is too great. Super-service cord and weatherproof sockets should be used and frequent inspection insisted upon, especially where men are going into boilers or tanks. All open knife switches should be replaced by safety switches, as there is always a hazard in operating them. Open or close a switch with precision—never do it timidly; burned blades and flashed eyes result. Electric drills are a frequent source of serious shocks, and should have careful attention. The should never be used without a ground wire attached to water pipe or other proper ground.

After summing up the mechanical and electrical hazards, Mr. Banta spoke of the human element or mental hazards. If ever there was a department which should demand the highest type of intellect and physically fit person with steady nerves it is the electrical department. Men of nervous temperament and erratic disposition should never be employed where the mental hazards are so great.

There was considerable discussion following Mr. Banta's address and many good points were brought up. One hazard mentioned in the discussion was that of electric welding equipment. Portable shields should be provided for welders and care taken to avoid fire caused by the flying sparks.

Remedies for Unusual Accidents

George J. Adams, of International Paper Co., New York, spoke on the subject "Unusual Accidents and their Remedies."

"It seems to me that prevention would have been a better word to use than remedies, because although we shall continue to remedy conditions that have caused an accident, our real job is to try to foresee these conditions, unusual or otherwise, before the accident occurs. At any rate, let us take that conception of our jobs to give ourselves something to shoot at."

With these opening words, Mr. Adams augmented his subject. He emphatically stated that whether an accident be surrounded by unusual circumstances, or of the ordinary type, the remedy in almost every case is the same. Proper selection of employees, proper instruction of how to do the job and proper supervision of the job—in other words, efficient operation—determines the degree of success, whether it be safety, production or any other object of any plant program.

A typical unusual accident was used as an illustration: A wood handler, having been employed by the company but two weeks twisted his leg while lifting some pulpwood. He did not strike any object, but the lurch resulted in a broken hip. The peculiar circumstances demanded a very thorough examination which revealed that the man had been in poor physical condition for sometime and that the bone structure was diseased. After a long siege of treatment, the injury proved fatal. Physical examination of new employees was not a part of the policy of the company which had employed this man, and such a measure would have proved him unfit for the work he was hired to do, thus saving his life and sparing the company a fatal accident.

Mr. Adams related instances of other unusual accidents which might easily have been avoided. He brought out that proper selection of employees may reach a high degree of satisfaction without much difficulty, depending on supply and system of selection. The problem lies in giving proper instruction on how to do the job and proper supervision of the job by the foreman. This problem is one for which management is directly responsible and very probably justifies some sort of a training program for foremen.

The speaker placed considerable stress upon the value of foreman training in the plant. He felt that this method brings satisfactory and permanent results. In this connection, he quoted a statement recently made at a conference on plant training: "At all stages of development (training) there is no satisfactory substitute for an intelligent man on the job who will use his head in accordance with the conditions which prevail at the time." It was brought out that unfortunately many foremen are not of this type, but the speaker felt the condition can be corrected somewhat and that some form of training is probably at least a partial solution.

Mr. Adams did not believe that in the majority of cases the injured person should be blamed for carelessness. He felt that whether true or not, there would be a greater reduction of accidents if management would take the attitude that they are to blame for every accident that occurs.

After a discussion of Mr. Adams' paper, W. J. Peacock, Northern Paper Mills, Green Bay, Wis., arose and announced that Robert L. Eminger, National Secretary of the American Pulp and Paper Mill Superintendents Association was present, and asked that he be invited to participate in the meeting. The chairman extended a warm welcome to Mr. Eminger and asked him to address the meeting for a few minutes. Mr. Eminger expressed his extreme pleasure in being asked to take part in the meetings of the Paper and Pulp Section, and said he felt the subject of safety was one that should be tied up with the programs of the superintendents meetings. He hoped any one present who would be willing to give a talk or read a paper on safety at any of the superintendents meetings, would consider himself already invited to have a place on the program.

Why Should Safety be a Daily Task?

J. J. Plzak, newly elected chairman of the Paper and Pulp Section, made the closing address of the forenoon session, speaking on the subject "Why Safety Must Be a Part of Our Daily Tasks."

Mr. Plzak prefaced his remarks with a vivid word picture of a trip across the country on a fast train. He described the comforts and pleasures of such a trip and wove into the story the duties of the various operatives in charge of such a train and their constant vigilance for the safety of the passengers. Such tasks demanded that each man on the force, from the engineer to the track walker, think safety every second of every minute of every hour. There must not be an instant of indifference or negligence or disaster would result.

In analogy, he drew a similar picture of the paper industry, moving the raw material from the woods into the mills, through the various processes of manufacture to the finished rolls of paper ready for shipment. Here, too, are many hazards, and if accidents are to be avoided, the men in these mills must think safety every second of every minute of every hour. In reviewing the hazards existing in a paper mill, Mr. Plzak spoke specifically of the danger of improper piling of wood in the yard, improper walkways between conveyors, the wood room with its revolving drums and attendant hazards, the grinders, dangers connected with opening the wrong digester, or blowing a digester when the pit has not been filled with water before blowing, also the many hazards of the machine room.

In answer to the question under consideration, Mr. Plzak said:

"I believe the answer is that we have not conveyed to our people, whether employer or employee, the thought that safety is a part of our everyday duty. I shall endeavor to show you how this can be done.

"First—(a) We are aware of the fact that the foreman of a department is the key man. It is through him the company conveys its policies to the men, and it is through him the product is conveyed back to the company, so he stands in the position of one who stands in the position of being responsible for his department.

(b) I believe the foreman should make a thorough study of guarding in his department. This should be done systematically and he should not be entirely satisfied with the safety code. He should go further for the reason that there are no two departments alike, no two companies make the same commodity alike in their physical properties. Suppose, then, that he has now completed his survey and guarded his department 100 per cent.

"Second—His second thought should be toward the posting of educational material on the bulletin board. He should not be satisfied with the equipment sent him, but should be on the alert for items clipped here and there relating to accidents similar to ones which might occur in his own department. These may be posted on the board, and he should also exercise his own ingenuity to make up his own ideas, regardless of whether they are properly prepared.

"Third—The foreman should take it upon himself to contact every one of his men each day, if possible. By some form of pleasant conversation, he may be able to draw the man's attention to some hazard and cleverly bring home the point he wants to make. If he finds some unsafe practice, he should stop it and instruct the men in the proper procedure.

"Fourth—This foreman, then, becomes what is known as a human engineer. If there are those present who are not versed in psychology, visit the public library and get some simple books on this subject. Then in some way impart that knowledge to your foreman, perhaps suggesting that he read one of these books. Your foreman as a human engineer should be on the alert for the fellow that has had a quarrel at home over the breakfast table, or the man who has not felt well for sometime. He should also study the peculiarities of individual behaviorism among his men.

"The foreman should also analyze the jobs in his department, not only for the past month or year, but for the length of time the company has been operating. The material on that accident analysis should be in such form that he will be able to determine what caused each type of accident and draw conclusions of the possibilities of future accidents and take steps to prevent them. This should be done for minor as well as major accidents. Statistics show that for every major accident there are some 20 to 50 minor accidents."

LUNCHEON MEETING

The luncheon meeting of the Paper and Pulp Section is each year considered one of the most interesting sessions on the program, and although the group trophies and the major trophy were this year presented at the Annual Meeting of Members on the opening day of the Congress, the luncheon on Thursday was after all a high spot in the events of the Paper and Pulp Section.

A goodly number was present, and after luncheon had been served, Chairman W. J. Brennan, who presided, called upon A. Scott Dowd, chairman of the Contest Committee to present data on the Contest. Mr. Dowd reviewed the contests of the past five years and presented figures showing a sharp decline in the number of lost-time accidents and days lost, with a corresponding decrease in frequency and severity rates.

The following group figures on the six-months contest which ended June 30 were also given by Mr. Dowd:

Division I—

Number of registrants in Group A, 8 mills; Group B, 34 mills; Group C, 52 mills; Group D, 13 mills.

Group A comprised a total of 7,347 employees, experiencing 110 lost-time accidents, covering 1,698 days lost time; a frequency rate of 12.770 and severity of .197. There were no perfect scores in this group.

Group B represented a total of 16,913 employees, experiencing 270 lost-time accidents, covering 7,024 days lost time; a frequency rate of 13,335 and severity of .347. One perfect score was made in this group.

Group C registered a total of 11,237 employees, experiencing 331 lost-time accidents, covering 7,217 days lost time; a frequency rate of 22.822 and severity of .498. There were three perfect scores in this group.

Group D consisted of a total of 692 employees, experiencing 15 lost-time accidents, covering 376 days lost time; a frequency rate of 15.780 and severity of .396. Seven perfect scores were recorded in this group.

It is interesting to note that the lowest frequency and severity rates in the Division of Pulp and Paper mills were made by Group A, those mills employing more than 750 people, although there were no perfect scores. The highest frequency and severity rates were made by Group C, employing 101 to 400 workers, three of whose registrants suffered no lost-time accidents.

Division II—(Remanufacturing plants)

There were 18 plants registered in this division, belonging to ten companies. A total of 3,607 employees experienced 41 accidents covering 948 days lost time, making a frequency rate of 9.319 and severity of .215. Four of these plants made perfect scores.

The contest as a whole consisted of 125 mills or plants, employing 39,796 workers or 48,715,543 man-hours. There were 787 lost-time accidents covering 17,263 days lost time. The average frequency rate for the contest was 15.744; severity, .354.

In addition to the group trophies which were presented on Monday to the group winners, Mr. Dowd announced he had been asked by the National Safety Council to present in their behalf Certificates of Merit for all other mills whose records were perfect but whose rank was below the first according to the length of time the record had been maintained, as defined in Rule 6 (a). The Council also included those eligible to certificates whose ranks in each group run second and third.

Those mills receiving Certificates of Merit from the National Safety Council were:

Division I

Group A—

Rank 2—Spruce Falls Power & Paper Co., Ltd., Kapuskasing, Ontario, Canada.

Rank 3—Hollingsworth & Whitney Co., Waterville, Me.

Group B—

Rank 2—Canada Power & Paper Co., Laurentide Division, Grand'Mère, Quebec.

Rank 3—Mill No. 2, The Champion Coated Paper Co., Hamilton, Ohio.

Group C—

Rank 2—(Perfect Score)— Cornell Wood Products Co., Cornell, Wis.

Rank 3—(Perfect Score) Finch, Pruyn & Co., Inc., Glens Falls, N. Y.

Group D—

Rank 2 (Perfect Score)—U. S. Gypsum Co., Gypsum, Ohio.

Rank 3 (Perfect Score)—U. S. Gypsum Co., No. Kansas City, Mo.

Rank 4 (Perfect Score)—U. S. Gypsum Co., Oakfield, N. Y.

Rank 5 (Perfect Score)—Hollingsworth & Whitney Co., Madison, Me.

Rank 6 (Perfect Score)—Mill No. 3 The Gardner & Harvey Co., Middletown, Ohio.

Rank 7 (Perfect Score)—Continental Paper & Bag Corp., Ashland, N. H.

Division II

Rank 2 (Perfect Score)—Container Corp. of America, Fairmont, W. Va.

Rank 3 (Perfect Score)—Container Corp. of America, Cleveland, Ohio.

Rank 4 (Perfect Score)—Consolidated Water Power & Paper Co., Stevens Point, Wis.

Following the presentation of certificates, the meeting was given over to impromptu remarks by a number of the members, led by Chairman Brennan, in which they expressed appreciation and thanks to Mr. Edward B. Fritz, publisher of THE PAPER INDUSTRY for his support of the contests each year, and also his annual gift of a major trophy to the leading group winner. Mr. Fritz responded to the compliment tendered him and voiced his personal satisfaction at the progress made by the section of the real joy it has given him to participate in the establishment of such a humanitarian movement.

Hazards Peculiar to the Sulphite Plant

Immediately following the luncheon, the meeting continued into the afternoon with F. H. Rosebush as the first speaker. Mr. Rosebush covered the subject "Hazards Peculiar to Sulphite Manufacture and Their Remedies." The first hazards mentioned by the speaker were those to be found in the wood room. Common accidents include foot injuries due to the handling of logs. The chief remedy for this trouble was cited as the wearing of safety shoes. Many men are subject to foot accidents by being around where logs are being handled, and not being careful to keep out of the way of falling logs. Another thing to watch out for in the wood room, is that dangerous implement the pickaroon, which is used in many operations. The use of hand splitter was also pointed out to be a great hazard in the wood room. Mr. Rosebush suggested that when there is a good man on the splitter, keep him there, because an experienced man can do that work without serious danger. He stated that their company operated the wood room for over a year without any accident to any man in that department.

Leaving the wood room, perhaps the most potent source of hazards in the sulphite plant is in the digester or cooking department. The use of brass pipe is recommended for steam lines entering the digester, principally because brass gives warning by leaking rather than by blowing up. Pop valves should be kept in good condition, and steam regulators, of course, in good shape.

It is pointed out that close attention should be given to blow-off pipes. The practice of drilling holes ⅜-inch deep in the base of the blow-off is common. As the pipe wears, due to friction, of course these holes will show up and give some warning as to the thickness of the shell.

Mr. Rosebush referred to strict rules to be followed when a digester is to be blown. First, some one should make a thorough inspection of the blow pit itself to see that the conditions are right. It should be properly drained and doors properly taken care of. No one should be allowed in the room and warning should be given before the valves are opened. The importance of remote control for blow-off valves was stressed. There should be plenty of gas masks in the

The Paper Industry Annual Safety Contest

Final Ranking of Paper and Pulp Mills, Members National Safety Council as of June 30, 1931

DIVISION ONE

Final Rank	Member	Mill	State or Prov.	Empl.	Hours Worked	L. T. Acc.	Days Lost	Rates Freq.	Rates Sev.	Points Credit	Points Debit
	Group A (751 employees and over)										
1	Kimberly-Clark Corp.	Falls	N. Y.	846	908,444	3	80	3.005	.080	871.840	
2	Soruce Falls Power & Paper Co. Ltd.		Ont.	905	1,012,739	4	102	3.950	.101	833.200	
3	Hollingsworth & Whitney Co.	Waterville	Maine	986	1,222,069	11	160	9.001	.131	659.568	
4	The Mead Corp.	Chillicothe	Ohio	1,066	1,174,425	10	240	8.515	.204	645.920	
5	Canadian International Paper Co.	Three Rivers	Que.	923	1,059,849	13	172	12.266	.162	542.688	
6	Canadian International Paper Co.	Gatineau	Que.	771	983,626	13	296	12.216	.301	456.688	
7	Oxford Paper Co.			1,850	2,162,763	56	703	25.893	.325	41.424	
	REPORTS NOT COMPLETE:										
	Powell River Co. Ltd.		B. C.								
		Total		7,347	8,613,935	110	1,753	12.770	.204	509.760	
	GROUP B (491 to 750 employees)										
1	The Champion Coated Paper Co.	Mill No. 1	Ohio	482	651,603	0	0	0	0	1000	
2	Canada Power & Paper Corp.	Laurentide	Que.	502	493,293	2	10	4.054	.020	882.272	
3	The Champion Coated Paper Co.	Mill No. 2	Ohio	556	694,614	3	25	4.319	.036	847.392	
4	Nekoosa-Edwards Paper Co.	Port Edwards	Wis.	497	646,562	1	249	1.547	.378	920.096	
5	International Paper Co.	Fort Edwards	N. Y.	501	525,571	3	53	5.708	.101	776.944	
6	International Paper Co.	Hudson River	N. Y.	736	1,007,554	6	112	5.953	.111	765.104	
7	Container Corp. of America	Ogden	Illinois	407	468,545	3	40	6.401	.085	761.168	
8	Continental Paper & Bag Corp.	Rumford	Maine	457	473,860	3	113	6.331	.238	703.208	
9	Fraser Co. Ltd.	Fraser Paper Ltd.	Maine	434	578,404	5	70	8.644	.121	674.992	
10	Dill & Collins Co.	Delaware	Pa.	530	608,260	6	35	9.864	.058	881.152	
11	Canada Power & Paper Corp.	Anglo-Canadian	Que.	485	581,200	6	91	9.906	.163	650.208	
12	Nekoosa-Edwards Paper Co.	Nekoosa	Wis.	437	556,427	6	96	10.783	.173	585.744	
13	Kimberly-Clark Corp.	Kimberly	Wis.	753	844,605	5	491	5.920	.581	578.160	
14	Ticonderoga Pulp & Paper Co.		N. Y.	413	411,319	5	51	12.141	.124	561.888	
15	Consolidated Water Power & Paper Co.	Wis. Rapids	Wis.	519	551,371	6	131	10.882	.238	556.576	
16	International Paper Co.	Otis	Maine	700	890,921	9	271	10.102	.304	555.136	
17	Price Bros. & Co. Ltd.	Donnacona	Que.	499	524,187	7	56	13.355	.107	520.840	
18	Canada Power & Paper Corp.	Belgo	Que.	748	913,544	11	219	13.041	.240	518.688	
19	Canada Power & Paper Corp.	Wayagamack	Que.	705	800,601	12	108	14.989	.135	486.352	
20	Kimberly-Clark Corp.	Niagara	Wis.	431	510,900	7	122	13.699	.239	486.032	
21	International Paper Co.	Niagara Falls	N. Y.	479	615,831	6	398	9.743	.646	429.824	
22	Container Corp. of America	Manayunk	Pa.	562	767,839	11	359	14.326	.465	384.368	
23	Bryant Paper Co.	Paper Div.	Mich.	552	649,626	11	240	16.933	.369	310.544	
24	Marathon Paper Mills Co.	Menasha	Wis.	402	619,728	15	153	24.204	.215	139.472	
25	Price Bros. & Co. Ltd.	Kenogami	Que.	606	760,719	18	197	23.977	.263	127.536	
26	The Northwest Paper Co.	Northwest	Minn.	654	902,174	20	432	22.169	.479	98.992	
27	Bird & Son, Inc.	E. Walpole	Mass.	588	736,049	7	1,147	9.641	1.580	59.488	
28	The Ohio Boxboard Co.		Ohio	700	763,133	22	210	28.829	.275		32.528
29	St. Croix Paper Co.		Maine	416	514,737	4	1,050	7.771	2.040		64.672
30	Marathon Paper Mills Co.	Rothschild	Wis.	576	773,709	28	343	36.189	.446		336.448
31	Price Bros. & Co. Ltd.	Riverbend	Que.	419	450,141	23	176	51.095	.391		791.440
	REPORTS NOT COMPLETE:										
	The Brown Paper Mill Co. Inc.		La.								
	Canada Power & Paper Co.	St. Maurice	Que.								
	Northern Paper Mills		Wis.								
		Total		16,913	20,247,977	270	7,024	13.335	.347	432.880	
	GROUP C (101 to 490 employees)										
1	Consolidated Water Power & Paper Co.	Appleton	Wis.	202	205,458	0	0	0	0	1000	
2	Cornell Wood Products Co.		Wis.	304	385,900	0	0	0	0	1000	
3	Finch Pruyn & Co. Inc.		N. Y.	280	317,455	0	0	0	0	1000	
4	Strathmore Paper Co.	Woronoco	Mass.	255	244,133	1	1	4.096	.004	867.232	
5	Delta Paper & Pulp Co.		Wis.	306	408,700	2	24	4.894	.059	819.792	
6	Strathmore Paper Co.	W. Springfield	Mass.	337	309,440	2	14	6.326	.046	773.768	
7	The Mead Corp.	Kingsport	Tenn.	399	555,920	3	96	5.396	.173	758.128	
8	Lowe Paper Co.		N. J.	139	241,985	2	8	8.265	.033	723.320	
9	Rhinelander Paper Co.		Wis.	363	504,510	4	47	7.928	.093	709.104	
10	International Paper Co.	Piercefield	N. Y.	259	302,788	3	68	6.606	.225	698.608	
11	Port Huron Sulphite & Paper Co.	Mill No. 2	Mich.	125	215,850	2	6	9.266	.028	692.288	
12	Price Bros. & Co. Ltd.	Jonquiere	Que.	175	217,115	2	34	9.213	.157	643.416	
13	Detroit Sulphite Pulp & Paper Co.		Mich.	291	327,196	4	7	11.963	.021	611.984	
14	Consolidated Water Power & Paper Co.	Biron	Wis.	253	274,714	3	35	10.920	.127	599.760	
15	Hoberg Paper & Fibre Co.	Hoberg "A"	Wis.	351	436,161	5	137	11.464	.314	507.552	
16	The Upson Co.		N. Y.	150	153,228	2	43	13.044	.280	470.592	
17	Container Corp. of America	Coated Board	Illinois	235	291,354	4	79	13.729	.271	452.272	
18	Escanaba Paper Co.		Mich.	230	304,744	6	41	16.450	.113	428.800	
19	Marinette & Menominee Paper Co.		Wis.	270	316,474	5	87	15.789	.275	384.752	
20	Bemis Bros. Bag Co.	Peoria	Ill.	227	292,181	6	37	20.535	.092	306.080	
21	Port Huron Sulphite & Paper Co.	Sulphite No. 1	Mich.	141	201,890	3	113	14.860	.555	302.480	
22	Pioneer Paper Co.		Calif.	250	285,985	4	181	13.987	.633	299.216	
23	Kimberly-Clark Corp.	Lakeview	Wis.	198	214,628	4	72	18.637	.335	269.616	
24	Hollingsworth & Whitney Co.	Gardner	Maine	175	172,529	1	250	5.798	1.447	236.043	
25	Hummel Ross Fibre Co.		Va.	268	410,006	9	87	21.936	.212	214.464	
26	Rising Paper Co.		Mass.	102	109,505	4	64	36.496	.378	93.664	
27	Hoberg Paper & Fibre Co.	Fibre "B"	Wis.	215	361,658	6	121	22.931	.462	81.408	
28	The Gardner & Harvey Co.	Mill No. 1	Ohio	152	256,991	7	40	27.238	.156	65.984	
29	The Adams Bag Co.		Ohio	150	200,993	5	79	24.876	.193	46.768	
30	Hollingsworth & Vose Co.	W. Groton	Mass.	125	104,314	2	92	19.081	.935	15.408	
31	International Paper Co.	Webster	Maine	132	171,981	5	30	29.073	.174	0.084	
32	Fibreboard Products, Inc.	Sumner No. 5	Wash.	154	181,559	5	55	27.594	.302		1.008
33	Ontonagon Fibre Co.		Mich.	185	219,686	6	79	27.312	.360		17.984
34	Southern Craft Corp.		Ark.	361	680,207	20	146	29.398	.215		26.736
35	The Crystal Tissue Co.		Ohio	194	353,428	6	198	33.709	.784		74.208
36	Hollingsworth & Vose Co.	E. Walpole	Mass.	236	346,741	7	135	28.370	.547		126.640
37	Bird & Son, Inc.	Phillipsdale	R. I.	118	125,022	4	37	31.994	.296		142.208
38	The Albemarle Paper Mfg. Co.		Va.	303	469,360	16	178	34.080	.379		242.448
39	Tonawanda Paper Co.		N. Y.	375	436,602	15	199	34.356	.456		281.792
40	Marathon Paper Mills Co.	Ashland	Wis.	150	205,353	8	81	38.769	.393		397.808
41	United States Envelope Co.	Morgan Paper Co.	Pa.	97	106,153	4	60	37.681	.585		431.792
42	International Paper Co.	Montague	Mass.	191	248,164	9	174	36.266	.701		440.912
43	Container Corp. of America	Circleville	Ohio	151	192,537	8	82	41.482	.425		497.424
44	Container Corp. of America	Cincinnati	Ohio	238	276,258	11	167	39.816	.605		516.176
45	The Northwest Paper Co.	Frederick	Minn.	130	162,583	7	95	43.028	.554		610.496
46	Bedford Pulp & Paper Co.		Va.	138	170,524	8	94	46.914	.493		666.448
47	Alton Box Board & Paper Co.		Ill.	217	347,075	16	301	47.000	.867		850.800
48	Blandin Paper Co.		Minn.	201	306,918	15	265	53.648	.563		1221.536
49	Jno. H. Heald Co.		Va.	216	272,971	16	1,149	42.599	5.081		*1005.168
50	Maine Seaboard Paper Co.		Maine	353	676,818	42	1,844	62.055	2.725		*2075.760
	REPORTS NOT COMPLETE:										
	Canada Power & Paper Corp.	Port Alfred	Que.								
	Defiance Paper Co.	Mill No. 1	N. Y.								
		Total		11,237	14,503,635	331	7,217	22.822	.498	70.496	
	GROUP D (50 to 100 employees)										
1	International Paper Co.	Riley	Maine	49	62,014	0	0	0	0	1000	
2	United States Gypsum Co.	Gypsum	Ohio	94	46,029	0	0	0	0	1000	
3	United States Gypsum Co.	No. Kansas City	Mo.	36	57,631	0	0	0	0	1000	
4	United States Gypsum Co.	Oakfield	N. Y.	38	49,796	0	0	0	0	1000	
5	Hollingsworth & Whitney Co.	Madison	Maine	92	93,473	0	0	0	0	1000	
6	The Gardner & Harvey Co.	Mill No. 3	Ohio	55	81,533	0	0	0	0	1000	
7	Continental Paper & Bag Corp.	Ashland	N. H.	84	113,197	0	0	0	0	1000	
8	The Gardner & Harvey Co.	Mill No. 2	Ohio	94	139,086	1	1	7.190	.007	707.120	
9	International Paper Co.	Livermore	Maine	85	108,114	1	1	9.240	.009	700.432	
10	Wardlow-Thomas Paper Co.		Ohio	69	93,466	3	304	21.630	3.258		1007.360
11	Detroit Sulphite Pulp & Paper Co.		Mich.	66	77,358	11	70	142.380	.906		2918.580
	REPORTS NOT COMPLETE:										
	Container Corp. of America	Dixon	Ind.								
	Defiance Paper Co.	Mill No. 3	N. Y.								
		Total		692	980,590	15	376	15.780	.396	336.640	

The Paper Industry Annual Safety Contest

Final Ranking of Paper and Pulp Mills, Members National Safety Council as of June 30, 1931

DIVISION TWO

Final Rank	Member	Mill	State or Prov.	Empl.	Hours Worked	L. T. Acc.	Days Lost	Rates Freq.	Rates Sev.	Points Credit	Points Debit
1	Bemis Bros. Bag Co.	E. Pepperell	Mass.	58	60,572	0	0	0	0	1000	
2	Container Corp. of America	Fairmont	W. Va.	56	82,935	0	0	0	0	1000	
3	Container Corp. of America	Cleveland	Ohio	111	124,811	0	0	0	0	1000	
4	Consolidated Water Power & Paper Co.	Stevens Point	Wis.	102	121,807	0	0	0	0	1000	
5	The Champion Coated Paper Co.	Coating	Ohio	1,250	1,491,891	5	41	3.351	.027	881.968	
6	Bird & Son, Inc.	Norwood	Mass.	215	264,294	1	4	3.784	.015	872.912	
7	The Meagel Co.	Fibre Container	Ky.	174	230,047	1	12	4.347	.052	840.096	
8	The Gardner & Harvey Co.	Mill No. 4	Ohio	155	198,155	1	3	5.047	.015	832.496	
9	Kimberly-Clark Corp.	Neenah	Wis.	441	556,353	4	80	7.190	.144	712.320	
10	Bryant Paper Co.	Imperial	Mich.	290	345,560	5	24	14.469	.069	509.392	
11	Container Corp. of America	Charleston	W. Va.	95	115,038	1	63	8.693	.548	502.624	
12	Container Corp. of America	Natick	Mass.	44	66,018	1	5	15.147	.076	454.596	
13	Kimberly-Clark Corp.	Atlas	Wis.	58	82,625	1	11	19.002	.209	306.336	
14	Container Corp. of America	35th St.	Illinois	248	273,829	5	100	18.260	.385	269.680	
15	Bird & Son, Inc.	Chicago	Illinois	91	114,656	1	300	8.722	2.617		325.904
16	Canadian International Paper Co.	Fibre Board	Que.	119	173,509	5	346	28.817	1.418		489.344
17	Container Corp. of America	Gibraltar	N. J.	100	127,307	10	59	78.550	.463		1698.800
	REPORTS NOT COMPLETE: Container Corp. of America	Sefton	Ind.								
		Total		3,007	4,399,406	41	946	9.319	.215	615.792	
		GRAND TOTAL		39,796	48,715,543	767	17,318	15.744	.355	354.192	

Summaries of Last Five Annual Contests

Year	No. of Mills	Man-Hours	Employees	L.T. Acc.	Days Lost	Rates Aver. Freq.	Rates Aver. Sev.	Mills with Freq. Below Aver.	Mills with Sev. Below Aver.	Ratio Empl. to Acc.	Ratio Non-Fatals to Fatals	Days Lost per Injury	Mills with Perfect Records
1931	125	48,715,543	39,796	767	17,263	15.744	.354	72	76	52 to 1	192 to 1	23	15
1930	124	47,343,549	36,153	986	22,504	20.826	.475	55	68	37 to 1	163 to 1	23	11
1929	123	49,776,515	38,916	1,311	25,073	26.337	.504	59	80	27 to 1	187 to 1	19	6
1928	122	47,673,816	36,357	1,355	26,368	28.422	.553	64	76	27 to 1	180 to 1	19	8
1927	119	43,802,804	33,786	1,468	28,396	33.514	.649	61	75	23 to 1	147 to 1	19	6

digester room and if there is an elevator in the room, a mask should be placed in the elevator.

The use of gas masks in the acid plant was another important point, and the speaker pointed out the necessity for frequent inspection of gas masks due to the deteriorating effect of gas fumes on these masks.

Following Mr. Rosebush's talk, there was considerable discussion as to practices followed by some of the mills in regard to blowing digesters, also the type of safety masks used and their inspection. Chairman Plzak announced that he had some questions unanswered from Tuesday's meeting which touched on this subject, and it seemed a very good time to bring them into the meeting.

The first question read was whether or not men in digester rooms and acid plants should have their individual gas masks. The answers indicated that this, of course, is a matter for management to decide. It was agreed it was much better for each man to have his own mask if the company would provide them.

The second question was: "Is there anything that can be kept in a mill that will stop the cough of a man who has been gassed?" Mr. Rosebush said he knew of nothing that would help, but since sulphuric acid gas is an irritant, when the irritation is removed the coughing soon stops. He did not recall any specific cases of serious consequences from this source. Mr. W. H. Gleason stated they had used fresh milk in severe cases, especially those of chlorine fumes. Mr. J. J. Plzak said their local doctor at Appleton had a formula for such a remedy, and if any one wished this prescription, he would be glad to send it to them.

Another question was "Should elevators and stairs in digester house be completely partitioned off from the rest of the building?" There was considerable comment on this subject, and several expressed the firm opinion that mills should have plenty of exits. W. J. Brennan told of a system of outside fire escapes built by the St. Croix Paper Co. to provide exits for men who might be trapped on the cooking floor.

Carelessness and Unsafe Practices Different

The final address of the section's meetings was based on the subject "The Difference Between Carelessness and Unsafe Practices" and was given by M. G. Hoyman, Kimberly-Clark Corp., Neenah, Wis.

In opening his remarks, Mr. Hoyman stated most emphatically that the term "carelessness" had been applied altogether too frequently to mishaps of various kinds and in a great many instances had been used to cover up a lack of understanding of the real cause of accidents by those in authority. He predicted that before long the word "carelessness" can be eliminated entirely from the vocabulary of most paper mill men. The speaker's conclusions were based on his observations covering a period of some 25 years, 14 of which have been devoted almost exclusively to safety work, 2 years with the Bureau of Mines and 12 years with the Kimberly-Clark Corporation.

Speaking in defense of the accusation of carelessness on the part of the employee, Mr. Hoyman asserted that to him the term "carelessness" implies a lack of interest in safety, even to the extent of ignoring safety rules and safeguards and deliberately taking chances with full knowledge of the possible consequences. From his association with large numbers of workmen he was convinced that men do not want to get hurt, and that given the proper training and supervision, they will get hurt infrequently. The term carelessness seemed in the speaker's opinion to belong more to the supervisor or those responsible for making safety rules rather than the workman on the job.

An instance was given of an accident which occurred when a number of men were asked to help out on a job for which they had no previous experience. The trained men who were working on this job were not instructed to watch the green hands, with the result that one of the helpers was severely injured.

The accident was termed "carelessness" on the part of the injured man, but the speaker disagreed with this ruling, neither did he consider it unpreventable because reasonable

forethought by those in authority should have prevented it.

Unsafe practices was held responsible for the larger percentage of accidents, brought about by habit, poor training, ignorance, reluctance to change or progress. Habit is, of course, one of the great stumbling blocks to safety. Safe habits are as easily cultivated as unsafe ones and much more profitable. It was the speaker's contention that the substituting of safe habits for unsafe practices not only constitutes our present big safety problem, but is the explanation for the success of most big safety runs achieved in the past. The phenomenal record of the Remington-Rand Company of Syracuse was cited as an outstanding example. With many other industries this company entered a safety contest sponsored by Associated Industries of that State in 1929, and within the speaker's knowledge was still going, with over 4,000,000 safe man-hours worked. Gordon H. Sterling, superintendent of this plant explained the splendid record with the statement "Safety has become a habit with Remington employees." That statement summed up not only the answer to accident prevention work, but the direction in which their efforts have been applied, namely; the detection of unsafe practices, their elimination, and the substitution of safe methods with follow-up and training until the new and safe way becomes a habit.

In answering the question "How do men acquire unsafe practices or methods of operating?" three avenues are open by which men may learn how to do the work assigned in a paper mill, as follows:

1—By a course of training and instruction given by experienced operators.

2—By observation of others doing the same or similar work.

3—By experimenting more or less with no help, until a certain degree of proficiency is acquired.

Mr. Hoyman brought out the importance of safety consciousness, particularly on the part of the foreman, superintendent, safety engineer or personnel man, each of whom has the opportunity to stand back and view the operations from a different perspective than the operator, making the discovery and elimination of most unsafe practices before the inevitable accident occurs, a very easy matter.

It was felt that it takes more than good intentions to change a habit. It takes time and concentration by those who have plenty of one and the ability to do the other, and the blame should be placed on those who fail to foresee, to anticipate or discover the unsafe practices before the accident occurs.

Mr. Hoyman closed his address by dwelling upon the value of the annual safety contests in stimulating constructive thought.

During the discussion which followed Mr. Hoyman's address, H. C. Hansen of Hummel & Downing Co., Milwaukee, Wis. told of an accident in their plant with a cutter, and where the supervisor was not to blame for the accident. There had been some disagreement with the insurance company and he asked if there were any suggestions about avoiding accidents on cutters. Some one mentioned that the International Paper Co. had devised a lock for use on cutters and that Mr. J. Lundrigan would probably supply the specifications for this device to any who wished it.

Chairman Plzak announced that he felt this subject demanded some investigation and appointed a committee of three to find all possible ways and methods of guarding guillotine cutters during the coming year. Those appointed were F. H. Rosebush, chairman, W. H. Gleason and M. G. Hoyman.

Commenting on the subject of responsibility of management, Ernest Augustus, told of a talk given to the foremen of his company, The Mead Corporation, by the editor of **Factory and Industrial Management.** This man had recently completed a 3,000 mile trip through Russia by airplane, and he stated that in Russia the supervisor, superintendent, or manager is held directly responsible by the Soviet government for every accident. He cited the case of a man who was killed in a coal mine. The superintendent was absent and probably could not have done anything, but he was arrested, tried and sentenced to two years in jail and fined the amount of his salary for two years. Upon being asked if he was responsible, the superintendent said if he had been there it might not have happened.

The last question read by the chairman asked for an opinion on the display of gruesome signs or pictures portraying serious accidents. This was discussed pro and con. Some felt it was the only way to bring home to the men the serious results which often follow even the most minor accidents. Others felt that they were repulsive and the men never did visualize such things happening to them. Some thought proper education and discipline much better than this practice.

At the close of the afternoon program, it was moved and seconded that W. J. Brennan, retiring chairman, be invited to participate in future meetings of the section, although no longer a member officially. The motion was made unanimous by a rising vote.

Before adjournment, Mr. Brennan made a plea for the delegates to take safety home with them, to take a keen interest in the subject of community and school safety. These are important matters and if we are going to combat the problems with which we are confronted. There are more accidents in the home and on the streets than in industry, and we, as industrial leaders in the safety movement, must take it upon ourselves to introduce the work of safety in our schools, on the streets and elsewhere:

1—The National Safety Council has a very splendid set-up of educational work for schools, which will give the desired information on this subject.

2—Organize either through the schools or civic bodies a school boy patrol.

3—Try to organize a safe drivers club in your city.

4—Try if you can, to have a safety school in your city during the winter months.

Your efforts in safety work in the schools will bring gain in dollars and cents and in preventing human suffering. It will reflect not only among the present workers, but in the workers that are coming on.

Advisory Committee Meets at Forest Products Laboratory

With the objective of a systematic and sustained attack on national and regional problems of the pulp and paper industry, the newly formed advisory committee to the U. S. Forest Products Laboratory held its first meeting at the laboratory Thursday and Friday, October 15 and 16.

Those in attendance were Rex. W. Hovey, Oxford Paper Co., Rumford, Me., chairman; A. Bankus, Crown-Zellerbach Corp., San Francisco; David I. Luke, Jr., West Virginia Pulp and Paper Co., New York; Allen Abrams, Marathon Paper Mills, Rothschild, Wis.; George S. Holmes, Brown Paper Mills Co., Monroe, La.; Carlile P. Winslow, director, Forest Products Laboratory; C. E. Curran, in charge of paper and pulp investigations, and other members of the laboratory staff.

The committee was organized by Mr. Hovey, representing the Central Research Committee of the American Paper and Pulp Association, to assist in securing broader and more immediate contacts between research work of the Forest Products Laboratory and operating practice in the industry. As formed, the committee represents the regional distribution of American pulp and paper mills in practical entirety.

The two-day session was given over largely to consideration of the Laboratory's program of work as now organized, with special attention to pulping studies of southern, western, and Lake States woods, research on standard and new processes of cooking, and investigations on fiber properties and processing. The broader industry contacts afforded through the functioning of the new committee will materially aid the planning of laboratory projects and the practical adaptation of research findings, according to views expressed by Mr. Hovey, Director Winslow, and others who attended the meeting.

The annual meeting of the Paperboard Industries Association will be held at the Commodore hotel, New York City, November 17 to 19, 1931. At this meeting, a president, three vice-presidents, and members of the executive committee will be elected for the ensuing year.

Penna.-N. J. Supers Convene

Several Papers of Industrial Interest Discussed

AN interesting program of technical papers and addresses was provided for the annual meeting of the Pennsylvania-New Jersey Division of the American Pulp and Paper Mill Superintendents' Association, at the Benjamin Franklin Hotel, Philadelphia, on October 17. The social features of the meeting were exceptionally enjoyable, an excellent luncheon being served at noon, while the banquet in the evening was highly creditable both to the hotel management and the Committee of Arrangements, of which S. M. Hesser, Hinde & Dauch Paper company, Gloucester, N. J., was chairman, with J. Bertwell White, National Vulcanized Fibre Company, Yorklyn, Del., acting in an advisory capacity.

E. C. Gildenzopf opened the business meeting as chairman of the division shortly before ten a. m. After asking the members to stand in silence as a tribute to deceased members, he called for the report of the secretary-treasurer, J. Linville Mullin responding with a statement of receipts and expenditures.

Steam and Power Generation

The first paper on the program, by F. F. Kauffmann, consulting mechanical engineer, Philadelphia, dealt with the need of applying modern principles of engineering analysis to the generation and exchange of power in medium and small size paper mills. He contended that the superintendents and executives of these plants can effect just as good savings in proportion as is possible in the larger plants, by cutting down the cost of steam generation and the proper application of steam with its transfer after being generated. He emphasized the importance of obtaining accurate information upon which to base the economies referred to. Several points mentioned in his paper were again brought up during the Question Box session in the afternoon.

Mr. Kauffmann's paper was entitled "The Generation and Exchange of Power as Applied to the Paper Industry," but he made it clear that he was not an expert on the manufacture of paper or pulp, saying that his sphere of activity was confined to steam power problems. His paper appears in full as the leading article in this issue.

Importance of Draft Regulation—The paper was discussed by Harry C. Busser, of the York Haven Paper Company, particularly in regard to the combustion charge and draft regulation. In reply to the question Mr. Kauffmann said that he attached great importance to draft regulation as with too powerful a draft an excessive amount of air is sucked in. A ratio of 300 to 500 constituted the right pressure and several types of automatic draft control apparatus were on the market, though with hand firing it was difficult to effect correct regulation. Mr. Busser said he had devised a method of control in hand firing that kept the pressure within the range of 300 to 500, on which he was complimented by Mr. Kauffmann.

After appointing a Nominating Committee for officers to serve during the ensuing year, Chairman Gildenzopf called upon J. W. Corey, Reliance Electric and Engineering company, Cleveland, Ohio, to present his paper on "Electric Drives as Applied to Winders and Supercalenders."

Electric Drives for Winders

Mr. Corey began by complimenting the Committee of Arrangements on the order of papers, where the first speaker was an authority on power and he was to tell some of the effects of power. Mr. Corey illustrated his paper with a number of slides that demonstrated the application of electric drives and control apparatus as applied to winders and supercalenders, and his descriptions of certain installations which come under his observation were most interesting and informing.

Winding Requirements—Touching on the requirements of paper mills in the reeling of paper, he said that certain mills demanded a tight roll with a maximum amount of paper in a given diameter, while other mills, book mills particularly, require a much looser winding, being more interested in elimination of welts, but in all cases an evenly wound roll from core to outside diameter and one that was free from wrinkles was chiefly desired. The company which he represented had worked with winder builders and papermakers to help meet the necessary conditions.

Lowering the lights, a number of slides were projected on the screen to show the application of a slow speed direct current motor to winders of the Cameron or Langston types. The motor is direct connected to the intake shaft, no clutches being used.

Control of Winding—The master control for operating the winder was shown. Here the operator had a drum as a master. In some applications a push button and rheostat are used, but Mr. Corey said the drum was more rugged. The operator simply turns the drum to the point he wants to operate on and the contact telegraph to the contactors in the control panel on the wall causes the motor to perform all of the functions of electric drives on winders.

Application of Motors to Drum Winders—The Reliance Electric and Engineering Company was led to make a more complete study of winding problems by the use of another type of electric drive. This was the application of motors to each drum of the Moore & White four drum winders. What was wanted was a more compact drive which would

take up less floor space with less power consumption. Before these results were achieved it was found that a real advancement in the art of winding paper could be made. He described this in detail by means of a schematic view. The original drive was by means of belts and core pulleys and to surpass it with an electric drive was a real problem. However, close co-operation between the papermakers, the machine builders and the electric manufacturers resulted in a satisfactory layout.

Drum Winding Explained—It must be borne in mind that the paper is first put on the reel from which it is carried to the slitter knives to be slit into rolls of desired width and from there passed to the winder drums. The paper is carried around two drums over the cores and is pulled tight by two other drums. The first two drums are the master drums which pull the paper from the roll while the other two are speed drums which determine the tightness of the roll. The two latter drums always run at speeds faster than the master drums, and the greater the speed difference is, the tighter is the roll.

The first of the economies in view, decreased floor space, was effected by attaching a special design of electric motor to each drum of the winder and putting a motor on the slitter. A 25 per cent reduction in power was at the same time effected by eliminating the short, tight pulls that had formerly been used.

Mr. Corey described the operation of the motors by means of rheostats, there being a rheostat in the field of each motor mounted in separate metal boxes on the wall near the winder. These rheostats are set to give various speeds on the different drums just as the operator used to adjust the belt on the tapered pulleys, and once they are set for a given grade of paper and condition of roll, they are not changed until the grade of paper is changed.

Advantages of the New Drive—Some of the advantages of this new kind of electric drive for winders were pointed out by Mr. Corey. A characteristic of the drum motors is that as the roll attains greater weight, the speed drums slow down slightly in relation to the drum pulling paper from the roll. This keeps tension uniform from the core to the outside of the roll. In this drive ammeters can be put in circuit with each of the winding motors and the current taken by each motor measured. This affords a means of indicating the degree of hardness or tightness of the roll being wound. The drive has been used on practically all kinds of paper and on machines from a 100 inches to 244 inches wide. As to winding speed, the fastest Mr. Corey had seen was a four-drum winder run with this electric drive at 2,000 f.p.m., but a two-drum winder of the same type with the same type of drive was operating at 3,100 f.p.m., and he saw no reason why a four-drum winder could not run as fast if demanded. He spoke of the influence of backstand tension on the kind of roll produced and said that a scheme of drive had been worked out whereby the friction bands on the backstand had been replaced by an electric generator driven by the pull of the paper going into the winder.

The Electric Drive on Supercalenders—Many electrical problems were presented by the speeding up of supercalenders. A few years ago the average calender run at a top speed of 500 to 600 f.p.m. with a threading speed of 40 to 50 f.p.m. Supercalenders are now built with roller bearings on top, bottom and intermediate rolls, and many run at speeds of 1,000 to 1,200 f.p.m. while he had heard of a supercalender running at 1,500 f.p.m. in England. He gave details of the changes that had been made necessary in drives by these high speed demands and illustrated them by means of lantern slides.

Until recently, the speaker said he had been under the impression that the slip-ring type of drive was more efficient than the variable voltage type of drive, but after some comparative experiments it was shown that the slip-ring drive consumed more power than the variable voltage drive.

Motor Drive on Shaft Winder—Mention was made of another type of winder that some installations of electric drive have been applied to. He referred to shaft winders which have always been driven by slipping belts. An electric motor is geared to the shaft. The motor runs at a high speed when the paper has been put on a new core, then as the roll builds up the motor is caused to slow down with each wrap of paper, which eliminates the slipping belt, saves space and makes a more uniform roll.

The paper was discussed briefly by Charles Kephart, of the York Haven Paper Company, who expressed the opinion that it would take an experienced operator to manage an electrically driven winder of the types described.

Joseph H. Wallace, Black-Clawson Company, also contributed to the discussion, citing some figures relating to power consumption as effected by increased speed.

Long Life Dandy Rolls

R. N. Watts was down on the program for a paper on "Dandy Rolls and Wires" but he was unable to be present, and his place was taken by Roger E. Edwards, vice-president of the Cheney Bigelow Wire Works, who had his audience with him from the start by deftly introducing his subject with a humorous anecdote. The time being short he touched only on the high lights of recent developments in the manufacture of wires and dandy rolls, lightening up his address from time to time with a funny story which kept everybody in good humor. He prefaced what he had to say with an account of the experiments that had been made to replace brass in the manufacture of fourdrinier wires.

Metals Used in Wires—Phosphor bronze was found suitable for weaving into wire cloth and it was a tougher metal and less affected by mechanical wear and corrosion. Brass wires are still used and constitute about two-thirds of the domestic production and bronze one-third. For certain grades of paper and machine speeds bronze wires are more economical, but for the same reasons brass is found more economical in other mills. Stainless steel was used for a while, but steel wires like monel metal wires were found to harden after a short period of use and crack in places. After much effort and experimentation, a new wire was developed having a flexibility of bronze and the characteristics of stainless steel. This new invention was patented April 14, 1931 and the wires are now on the market under the brand name "Duo-Wear." In this wire of phosphor bronze, the warp is interspersed with stainless steel wires.

Mr. Edwards gave some figures of production and shipment and cited reports bearing on the longevity of the new wire, all in favor of Duo-Wear. He said that the new wire is being constantly improved and its use would insure the lowest wire cost per ton of paper.

Labor Cost of Dandy Rolls—A dandy roll was exhibited and Mr. Edwards called attention to the fact that the cost of such a roll was largely made up of labor, the weight of the wire, making up the frame and winding being small compared with the amount of time taken to build the shell. He recalled some interesting historical developments in the manufacture of dandy rolls. Years ago the dandy roll was built on a shaft running through the center with spiders supporting the outer framework and wire cloth covering, similar to a cylinder mold. Forty years or more ago an attempt was made to build the dandy without any central shaft, several changes in design were effected and a new type of roll produced, on which patent rights were granted June 14, 1892.

Developments in Dandies—With the advent of wider machines and higher speeds dandy rolls have been made longer up to 244 inch face, with a diameter of 24 inches. To strengthen the rolls numerous spiders are introduced, some spaced as close as 16 inches apart. To overcome the tendency of large dandies to twist near the ends, the joints are held together by a copper clip, these being placed at every joint for a distance of 15 inches from each end when necessary. Ball bearings are used with the heavier rolls.

Repair of Rolls—Mr. Edwards touched upon the repairing and recovering of used rolls. He described the precautions taken to restore rolls to their original shape and commented on the fact that a roll that has been received at the mill with a wrinkled cover means that the box has been dropped somewhere in transit. When a box is dropped, the frame of the dandy, being made of hard wire, springs, thus stretching the covering; the frame immediately returns to its true shape

and the stretched cloth, not being elastic wrinkles into the shape commonly described as "crow's feet."

Soda Solution for Cleaning—Complaints are sometimes received from mills on account of the dandy picking the sheet or becoming filled with stock so fast as to make it impossible to keep the roll clean. On examination of the cover, it will be found that corrosion has been at work, or else the dandy has been soured with acid. He recommended soaking the dandy in a solution of soda ash for cleansing purposes. Mills who wash their rolls with mild soda ash solution seldom experience trouble from the dandy roll picking up the sheet.

Excessive use of steam is a cause of trouble, as it causes the frame to twist, especially on large rolls.

A short discussion ensued, and after Chairman Gildenzopt had thanked Mr. Edwards for his contribution to the proceedings, the election of officers was taken up after the Nominating Committee had presented its report.

New Officers

The new divisional officers for the ensuing year, elected by a unanimous vote, consist of the following:

Chairman, Charles H. Kephart, New Haven Paper Company, York Haven, Pa.; first vice-chairman, J. Linville Mullin, Jessup & Moore Paper Company, Wilmington, Del.; second vice-chairman, S. H. Shellington, West Jersey Manufacturing Company, Camden, N. J.; third vice-chairman, S. M. Hesser, Hinde & Dauch Paper Company, Gloucester, N. J.; secretary-treasurer, Harry C. Busser, York Haven Paper Company, York Haven, Pa.

Retiring Chairman Gildenzopf congratulated the division on their selection of officers and the meeting was then adjourned for luncheon.

Reminiscences of an Old-Timer

The afternoon sitting was opened at a quarter to three o'clock and no time was lost in introducing the first speaker Joseph H. Wallace, who was down on the program for a paper entitled "Modernizing."

Reprints of a special article called "Reminiscences of an Old-Timer" had been handed around during the luncheon hour and all in attendance were more or less familiar with Mr. Wallace's connection with the industry down to the time of his becoming associated with the Black Clawson Company, of Hamilton, Ohio. Mr. Wallace laughingly said he was not quite satisfied with the title which had been given to his paper and suggested that a better one would be "How to be Happy Though Married."

Brings in Sir James Barrie—He mentioned some of the letters which had come to him as a result of the publication of his reminiscences, and these reminded him of what had happened to Sir James M. Barrie, author of "When A Man's Single," "Auld Licht Idylls," and other kail-yard novels, not to mention "Peter Pan." Sir James was credited with saying that he had once made a good living writing stories on what readers had written in to say they had read between the lines.

Mr. Wallace had been asked if he had found chemistry as useful in his career as engineering. He was not sure, but it was his own impression that experience was a good thing to hold science in check. One man had been callous enough to inquire if he regarded his reminiscences as publicity or advertising, adding that "if publicity is news your reminiscences are cheap advertising." However, Mr. Wallace said that his job in the paper machinery business was modernizing himself.

Depreciation and Obsolescence—Depreciation and obsolescence were the two things to look after in an industrial plant. One of these can be predicted and the other cannot. Depreciation from usual wear, and obsolescence from ordinary progress are predictable but there are periods during which sudden improvements occur that are of such importance to an industry that they must be given special consideration. Thus, every paper mill was entitled to a higher ratio of depreciation and obsolescence for the period 1925 to 1930 because of these changes. There were only two kinds of paper mills at any given time, those that should not try to make paper any longer, and those that should be kept modern.

Early Work in Kraft Pulp and Paper—Mr. Wallace gave an interesting account of his early experiences in sulphate work in Norway, and he told of his experiences in the South some 25 years ago when he started a chemical laboratory for the investigation of Southern woods, cornstalks, bagasse, rice straw and other prospective papermaking materials. He mentioned that the first alkali pulp mill in the South was built by the Lutcher-Moore Company operating on Southern pinewood at Orange, Texas, in 1903. The first kraft paper from southern pinewood was however made by the sulphate process in North Carolina in 1908. Three years later the mill at Orange, Texas, was changed to make kraft pulp. In 1913, the Southern Paper Company at Moss Point, Miss., was making sulphate pulp and kraft paper from Southern pine refuse at a lower cost of production than ever made elsewhere before or since. The wood cost 50¢ for 150 cubic feet, loaded on a barge in six-feet lengths. As it entered the wood preparing room on a conveyor, its cost represented 85¢ a cord.

A Look at the Future—It was logical, he said, to combine wood distillation and rosin extraction from waste wood with pulp and paper production. Paper manufacturers have not realized the value of the naval stores—turpentine, pine oil and rosin—as a by-product, while the naval stores operators have been so intent on efficiency of extraction that they have ruined the fiber in the wood and then asked for advice on how to make paper from it. Mr. Wallace admitted that most people had the impression that he was cracked on the subject. He said he was called crazy in 1906 when he tried to get capital to make kraft paper from southern pinewood. He was still full of the idea, however, and made the prediction that he would see pulp and paper mills of the South Atlantic and Gulf Coast making all kinds of papers requiring all chemical fiber and producing as by-products turpentine, pine oil and rosin from the chips between the wood preparing room and the digesters. At the same time tar, pitch and fuel would be obtained by the destructive distillation of wood refuse unfit for paper mills. He is confident that magazine, book and other white papers of an all chemical fiber content will yet be produced from southern pine.

Efficiency the Watchword—After describing and defining the different types of obsolescence and their causes, Mr. Wallace urged the superintendents to concentrate on efficiency, saying that management often expects the push of efficiency to come from below and that papermakers were often lax in pushing.

"If you see a possible improvement that would pay a good return, it's your job to fight for it. It's what you're paid to do. Don't excuse your faults or that of your mill by citing others equally bad."

Printers' Troubles with Paper

There was no discussion of Mr. Wallace's paper and he gave place to Arthur F. Haise, of Innis & Son, printers, Philadelphia, who talked extemporaneously on the printers' raw material, meaning paper, though he did describe the three major operations of printing: (1) intaglio, (2) lithography, (3) letterpress, and did touch on ink the other raw material of the printer with regard to its absorption or repulsion by paper. He discussed quality in paper.

What Printers Want—Tear, folding and all the other superficial tests applied to paper by paper salesmen meant nothing to the printer. What the printer sought chiefly in paper was uniformity of thickness, and he gave an excellent description of printing methods and "make-ready" to elucidate some of the problems confronted by the printer when paper was either too thin or too thick. Freedom from slime spots and holes was another prime requisite, but curl in paper was the greatest bane in the life of the pressman. A paper that takes ink well was thought highly of. He admitted that the paper of to-day gives the printer "the best break for his money." He described the characteristics of coated paper and was evidently familiar with his subject. He paid a tribute to the ink manufacturer who has to make ink to fit paper and wondered if there was as much co-operation between the maker of paper and the maker of ink as there should be.

Unsatisfactory Laid Antique Papers—Dust in paper was terribly obnoxious to printers but it was not so bad today

as formerly. Opacity was always a problem and he counselled papermakers to watch opacity in lightweight and book paper. The new styles of laid antique papers are not so satisfactory as the old-fashioned kind, printing with the new papers being like trying to print on a shingle. Trouble was experienced particularly in folding the modern types of laid antique paper near the chain mark, and something should be done about it. The moisture content of paper was a deep subject and not all printers keep their shops and storerooms at constant humidity, though many do. The average buyer of paper does not know what he is buying and depends upon the printer, so that if anything goes wrong "he takes the bumps."

In the discussion which followed, Mr. Kephart, Mr. Wallace and Mr. Ramsey took part. It was evidently the consensus that printers and papermakers should get together oftener for the discussion of common problems.

Round-Table Discussion

A question box was conducted by Former President Ramsey but the questions, numbering six in all, were not productive of much information. The first question had to do with the proper distance to be kept between the slices of a machine running approximately 75 ft. to 150 ft. a minute, also on a machine running at greater rates of speed. Slices are generally six inches apart. It was advised to keep the slices low to get the benefit of the shake.

Mr. Shellington said he had moved the slices from 2½ to 6 inches in making jewelers tissue and cigarette papers without noticing any difference in the result.

The second question had to do with the pitch necessary on a fourdrinier machine. Was any pitch required on a fourdrinier machine up to 400 ft. a minute and how much? This remained unanswered.

Discharge from Dryers—The third question produced more discussion and was whether as good drainage can be got from dryers with the syphon pipe discharging into a discharge header on a level with the bottom of the dryers, as when it is placed some distance below the bottom of the dryer level? The discharge header in both instances being connected with a vacuum of approximately five inches.

Mr. Shellington said it made no difference where you have the discharge dryer heads so long as the vacuum is maintained. He spoke favorably of the Morehead trap which sends the drainage to the boiler, and he also had a good word to say for the Stickle trap. Mr. Wallace said the exhaust header in a dryer should always be low.

Heaven and Papermakers—Apropos of the foregoing discussion and with reference to the achievement of perfection in suctioning by vacuum, Mr. Wallace remarked, "By that time we will be in heaven." "Yes," rejoined Mr. Ramsey, "where there is no broke"—and Mr. Shellington, sotto voce, "where there are no papermakers either," all of which raised a laugh.

Question four was, "How to increase bulk in folding boards?" This gave Charley Ellis, of the Downingtown Manufacturing Company, an opportunity to mention the Extractor Rolls made by his firm. Questions five and six were related to question four, being on the subject of the elimination of waviness and the increase of flexibility in folding boards. Mr. Ellis called on Mr. Hesser to stand on his feet and discuss the subject but the invitation was declined. The invitation had something to do with the decision of a certain paper mill to install as many as three of the Downingtown Extractor Rolls on a single machine. Increased bulk test and finish had been obtained in the mills of the Robert Gair Company with the use of the rolls, Mr. Ellis said.

Mr. Ramsey then turned the meeting back to Chairman Gildenzopf who spoke of the new officers and made a strong plea for an increase in the membership of the division, as there were many superintendents in the two states who were not yet affiliated with it. The meeting was then adjourned.

Speeches at the Banquet

The meeting closed with a banquet in the Crystal Ball Room of the Benjamin Franklin hotel in the evening. Following a delectable dinner there were speechmaking and entertainment of a merry character and the evening's entertainment was topped off with an inspiritive address by Dr. Manly P. Northam, whose constructive philosophy, humor and practical message made a strong appeal. William Hendrie Lloyd, of Curtis & Bro. Company, Newark, Del., and Mount Holy Springs, Pa., again acted as toastmaster. He has served most acceptably in this capacity at previous gatherings of the Penna.-New Jersey Division, always striking the high note of good cheer and conviviality. There was singing, led as usual by V. L. Sanderson, who was accompanied on the piano by his charming daughter, Miss Betty. Mr. Sanderson is the Philadelphia representative of the Terry Steam Turbine Company and is vastly popular among the members of the division.

In a few well chosen words Retiring Chairman E. C. Gildenzopf started the speechmaking by an expression of his reluctance to lay down the office. Then Chairman-Elect Charles E. Kephart spoke in interesting fashion of what he intended to do during the coming year to advance the interest of the association and make it a successful organization. He pleaded for the co-operation of all in his endeavors and made a special bid for the assistance of the supply men who were so essential to its success.

Presentation to Former Secretary Mullin

Former National President James G. Ramsey was introduced as the guest of honor. After regaling the diners with a humorous story he spoke of the successful outcome of the meeting and turning to J. Linville Mullin, retiring secretary-treasurer, he asked him to stand up to be presented to the gathering as the man who was chiefly responsible for the admirable manner in which the program had been arranged. Mr. Ramsey then presented Mr. Mullin with a set of matched clubs and a golf bag as a token of personal esteem and appreciation of his services. Mr. Mullin was greatly affected by this unexpected tribute and could only murmur his thanks.

Impressive Address by Manly Northam

No meeting of the Penna.-New Jersey Division is considered complete without an educational message from Dr. Manly P. Northam, of Yorklyn, Del., who is associated with the National Vulcanized Fibre Company of that city. On this occasion he made an impressive address that was calculated to stimulate the superintendents and other industrial workers present to give better service to their employers. He interspersed his remarks with witty sayings and humorous anecdotes which added to the general enjoyment.

Touching on the business depression, he counselled the superintendents present to take stock of their jobs. He said that a lot of executives are patting themselves on the back these days because they have managed to hold on to their jobs in this period of depression. This was a dangerous mental attitude. It was not enough to be merely a useful cog. Too many useful cogs were going from place to place offering their services at half price. To-day a man must be more than useful. He must be indispensable.

Superintendents who study their jobs can find that Quality can be improved, Production can be increased, Costs can be reduced, Time can be saved, Power conserved, Loyalty and Team-Work promoted. In eloquent words, he impressed the need of superintendents studying their jobs. A man not intensely interested in his job will fail to observe the opportunities for betterment around him all the time. "Some day there will be a vacancy above you, so you must grow big enough to step into it. Get ready to deserve the larger pay."

He congratulated the members of the division upon the conscientious, intelligent and patient study they were making of the needs for betterment in the paper industry. Theirs was a profession rich in opportunities for the development of better methods, processes and equipment. He sounded a call for new endeavor, even greater efforts and unselfish service. He was heartily cheered as he returned to the guest table and the diners began to disperse.

Samuel Newton Spring, professor of silviculture in the Department of Forestry at Cornell University, has been appointed assistant dean of the New York State College of Forestry at Syracuse University. Professor Spring will assume his duties as assistant dean and director of instruction for both the College and the New York State Ranger School early in 1932.

POWER

GENERATION - UTILIZATION - MAINTENANCE

By W. S. JOULE

This section turns the searchlight upon power and its allied problems. It shows up big possibilities to save. Opportunities to improve conditions, methods, apparatus will be discovered. Worth while practices suggest new ideas and wider usages of equipment.

To Improve the Operation of Anti-Friction Bearings

ANTI-FRICTION bearings—particularly those of the roller type—are finding rapidly increasing use in the paper and pulp industry. Consequently more and more engineers are facing problems involving them. There are a number of overlooked aspects to the operation of this type of bearing, attention to which will mean lower lubricant cost, longer bearing life and greater over-all satisfaction.

According to E. Zitzewitz, chief engineer, Aetna Ball Bearing Mfg. Co., the use of improper lubricant is responsible for needless bearing troubles. Too often the lubricant is bought upon price instead of upon suitability.

Animal and vegetable greases should never be used because they break down to form free acids or alkalis. Only a pure mineral grease or oil should be used, its consistency depending upon the speed, load and temperature. It is very important that the lubricant should be non-hygroscopic, so that it will not absorb moisture, which causes corrosion. Nor should the lubricant contain any solidifying matter which may tend to clog the bearing and so cause unnecessary wear and friction. The lubricant should be absolutely free from such material as chalk, graphite and similar substances which tend to create a lapping action which, of course, leads to rapid deterioration. Where high speeds and elevated temperatures are to be contended with, it is important to employ a grease which will not break up, forcing out the oil from the bearings or forming a gummy residue which may clog the rollers or balls and rupture the race.

There is no hard and fast rule in regard to the lubrication—grease or oil—to use, since it will depend upon the load, the speed, the presence or absence of dirt and the temperature involved. While there is no well-defined speed above which oil should be used, or below which grease should be employed because the lubricant serves the four functions of preventing rust and corrosion, minimizing friction, dissipating heat and forming a supplementary seal between rotating and stationary elements, it may be stated in general that oil is preferable for high speeds and grease for low speeds. Whether the dividing line happens to be 1,500 r.p.m., or 2,000 r.p.m., will depend upon the method of lubrication employed, the temperatures involved, absence or presence of dirt and similar operating conditions.

Many anti-friction bearings are doomed to trouble and short life long before they are installed because they have not been properly protected against corrosion, grit and dirt while in stock. Operating engineers frequently fail to realize the importance of protecting anti-friction bearings against dirt, moisture and contamination from the atmosphere. Every anti-friction bearing shipped by the manufacturer or even before going into stock is carefully covered with grease or oil and hermetically sealed. In this way it will remain indefinitely untarnished and immune from corrosion, pitting, etc. Frequently, however, these bearings are left lying around in the plant with a broken wrapper or with a wrapper entirely removed and in other cases the grease has been allowed to dry up or become wiped out. In consequence, rapid corrosion takes place with pitting of the highly polished surfaces. Races, balls or rollers receive scratches and indentations. In other words, the bearing becomes defective even before it goes into service. Every bearing not in use and before installation should be carefully covered with a grease or oil which is inhibitive, non-hygroscopic and should then be wrapped so as to be protected against the atmosphere.

These are some of the overlooked aspects of anti-friction bearing operation and maintenance, deserving attention, which can be easily given.

Why Uniform Coal Size Is So Important

SMALL coal sizes cost less than the larger sizes. The smaller sizes tend to develop higher combustion efficiency than the larger sizes, since they require less excess air, permit of more rapid and complete mixing of gases and air, hence can be burned more rapidly, increasing the effective grate area. These facts are well-known.

One fact often overlooked, however, is that it is also important or at least very desirable to have uniform sizes of lumps, since this also has a big influence upon combustion efficiency, rate of combustion, ash pit loss, freedom from smoke and fuel bed troubles.

The amount of air per pound of coal required, depends upon the mixing of air and gases, which depends among other things upon the size of the lumps of coal. The gases given off from uniformly small lumps of coal will mix with air better than where the lumps are large. Where some lumps are large, some small, it is obvious that the small lumps will be burned before the large ones so that if the air supply is exactly correct for the mixing of gases from the small lumps, there will be a deficiency of air for the large ones and vice versa.

This is why coal sizes should be uniform particularly in the case of chain-grate stokers. If the stoker speed is correct for the small lumps, the large lumps will reach the end of the grate before they can be burned and a high ash-pit loss results. If the speed is correct for the large lumps, the small lumps will have burned and holes will occur in the fuel bed, resulting in a loss due to excess air rushing in through the low-resistance places in the fuel bed, due to the small lumps having burned out. Insist upon uniform coal size, therefore.

In a plant operating a number of boilers, employing unit pulverizers, thermometers were installed in the ducts furnishing the secondary air. This air was drawn directly from the furnace and was employed to dry the coal previous to pulverizing it. Normally the temperature of this air would range from 250 to 400 deg. Fahr. It was found, however, that unless care was taken to watch the temperature of the secondary air and control it by operation of duct dampers, that the temperature of this pre-heated air would rise 600 and even 700 deg. Fahr. Whenever this happens, the thermometer in the duct would be broken. After this had occurred four or five times, at a cost of $10 apiece for thermometers, a pyrometer of the indicating type was installed, a thermocouple being located in each duct. By means of a switch, it became possible to immediately determine the air temperature in any duct. No further loss was encountered due to breakage, of course. Thermo-couples and pyrometers seem to be preferable for temperatures above 250 deg. or possibly 100 deg. Fahr. For work from 100 to below, thermometers are preferable.

Northern New York Supers Hold Annual Fall Meeting

THE annual fall meeting of the Northern New York Division of the American Pulp and Paper Mill Superintendent's Association took place on Saturday, October 17 at the Hotel Onondaga, Syracuse, N. Y. The acting chairman, Frank A. Johnson of the Sherman Paper Co., presided at the meeting in the absence of the divisional chairman, A. G. Wightman, of Knowlton Bros., Watertown, N. Y. Through the efforts of Mr. Washburn Weston, American Wringer Co. and the acting chairman, an excellent program was afforded those members who attended. Registration was in charge of the secretary and treasurer Ronald W. Hynes of the Newtons Falls Pulp and Paper Co., Newtons Falls, N. Y.

The morning session was called to order at 10:30 a. m. by the acting chairman. The attention of the members was directed to the machinery exhibits on display at the meeting.

Reclaimed Pulp by Snow White Process

The first speaker, Mr. W. Jay Russell, president of the Snow White Co., Oswego, N. Y. was then introduced. Mr. Russell then presented a paper on "De-Inking Old Papers." The fact that reclaimed stock produces a better sheet of paper as compared to raw stock and the necessity for conservation of our forests were advanced as essential reasons for such reclamation by the speaker.

The vast acreage yearly cut over to supply the demand for pulpwood as well as the cost of reforestation of such land was clearly brought out as a prime reason for the re-use of old paper stock, amounting to over a million tons yearly. The value of such paper stock over a period of 25 years closely approximates 400 million dollars.

The Snow White process eliminates the cooking and boiling entirely, substituting in its place an agitator and the Snow White chemicals, thus defibering, disintegrating and hydrating the reclaimed pulp in one operation. The temperatures used range from 44 to 120 deg. Fahr.

Shrinkage losses in the process are placed under 10 per cent for ledger stock. Laboratory tests indicate that where a comparison was made with stock treated in the customary cooking method, the pulp by the Snow White process had a 16 per cent greater bursting strength, a third better fold and 40 per cent less ash content. This operation is accomplished in less than one hour in warm water as compared to the usual processes which require from four to six or more hours at around 212 deg. Fahr.

Power consumption for a 100-ton mill on this basis would not exceed 800 hp. as compared to 7,000 hp. required for a like amount of raw pulp. Sorting is entirely eliminated. The process may be batch or continuous, the papers requiring only dusting and shredding prior to the addition of the chemicals. After such treatment the de-inked stock is riffled, screened and lapped. Under certain conditions where chlorine is used, it is necessary to wash out the bleach residue before lapping takes place.

Reclaimed pulp ordinarily is substituted for soda pulp whereas Snow White pulp has been found to be a suitable replacement for new sulphite. In general, pulp made by the Snow White process may be used alone or as a blend to close up the sheet, better the printing surface, eliminate fuzz, increase opacity and fold, better finish and eliminate pitch troubles. It likewise serves as a means of cutting sheet weight without the loss of bulk. A saving of $800 in some instances may be effected, according to Mr. Russell, through the increased production resulting from the use of Snow White pulp under certain operating conditions.

Following the discussion of this paper a round table discussion of operating problems took place. At its close a nominating committee was appointed by the chairman and the meeting adjourned for luncheon.

Papers on Sizing and Beating

The afternoon meeting opened with the presentation of a paper on "Sizing" by F. M. Williams, of the Williams Apparatus Co., Watertown, N. Y.

At the close of the discussion of Mr. Williams' paper, the chairman introduced Mr. John Haskell, Dilts Machine Works, Fulton, N. Y. who spoke on "Beating." The speaker briefly outlined the facts relating to the invention of the bandless beater roll. As manufactured at present, the roll consists of four steel heads each provided with dovetail slots which permit each fly bar to be held securely in each head by means of metal keys or wedges.

In use it is possible to remove one fly bar without disturbing the others merely through the removal of a section of wood filling. Holes in the outside heads allow easy access to the keys which are then driven out.

In filling the roll, each bar is fitted loosely, the keys are inserted and sledged into place gradually around the entire roll in order to equalize the strain on the heads. The keys are finally driven home with a special drift bar. Although driven in tightly, no difficulty is experienced in their removal due to the taper of the slots into which they are fitted.

The wood filling consists of two pieces, one piece locking under the bar and the other made wedge shaped for a driving fit. Drive screws are then driven into the crack between the woods to insure added bond. Cap pieces complete the sectional filling.

The use of alloy steel bars has largely replaced the formerly used low carbon steel bars. In general a bar must be hard enough to withstand mild shock without bending and also wear down without losing the effectnveness of its cutting edge and at the same time bend under extreme shock rather than break off. Vanadium alloy fills these necessary qualifications and is used in preparing the bars for bandless rolls.

Hardened steel bars are not recommended for banded rolls since the bar is so much harder than the iron bands used to hold them and there is danger of the bars cutting or chafing into the bands. This causes the fly bar to loosen and subsequently either break out or cause the bands to break. Bars are manufactured of alloy or carbon steel, as well as those coated with tin or copper.

Farnsworth System of Drainage Control

The next paper was that presented by Fred Farnsworth of the Farnsworth Co., Watertown, N. Y. The author stated, as an introduction that one of the main factors causing the present depression was the rapid change from old to more modern and improved methods of manufacture. The rapid advance of science makes it necessary for a mill to change its methods overnight if it desires to remain an important factor in the field of production. Time payments allow a mill to obtain maximum benefit on new equipment long before such equipment is completely paid for. Large reserves accumulated in the past for new improvements are no longer necessary. The smaller mills at present show greater profits than the larger ones due to their progressive attitude and closer control of manufacturing costs. Profits in the future will be taken only through lowered manufacturing costs. This will be realized from the same tonnage produced in less operating time.

Proper drainage of dryers, according to the author, not only reduces steam costs but also increases the quality of the sheet. Increased drying capacity causes more production, less back pressure and a greater engine efficiency. Uniform temperature control reflects a more uniform moisture in the sheet, a factor of prime importance in the production of quality newsprint. This factor likewise has a direct bearing upon daily production.

The Farnsworth system of control represents a medium through which the foregoing conditions may be easily realized. The system is capable of operation from a vacuum of 26 inches up to a pressure of 50 lb. per square inch. The drainage of water from separators is accomplished through the use of the vacuum equalized Farnsworth pump. A record of water passed through the pump is likewise obtained at this point.

Through the use of a practical illustration, the author pointed out the effect of water within the dryer. An inch of water within the dryer shell will increase the power to drive the dryers about 20 per cent. Such a film also retards dryer capacity, since the drying of paper by water is limited up to a point at which the temperature within and without the shell is equal.

Mr. Farnsworth then discussed at some length the effect

of air within the dryers upon their efficiency. The method of removal of this air by means of the Farnsworth system was then described. Air is concentrated in No. 1 wet end dryer where its removal is brought about through the condensation of water within this particular shell followed by removal of the air by means of a vacuum pump. Such condensation necessitates the use of great amounts of steam in the first four or five dryers thus causing all syphon pipes to continually blow hard yet with no wasted steam or heat.

The use of specially designed condensers results in the return of 25 per cent of all steam to the steam header of the next section. Such condensers remove all water from the steam prior to its re-use. Uniform temperatures across the face of the dryer must result from such rapid circulation. Water is likewise carried quickly away from the shell surface. Elimination of any air which might be within the shell must also take place as a result of the rapid passage of steam through the dryer.

A gradual increase in dryer temperature from the wet to the dry end is a direct result of the movement of the steam in this direction. Through its entire travel, the paper is in contact with dryers having similar temperatures within and without the shell.

The use of this system will result in the production of more paper at the same pressure or the same amount with from 50 to 75 per cent less pressure. Low pressure drying means less steam consumption with a consequent reduction of back pressures to the turbine to the extent of a saving of one-half pound of steam per hp. per hour.

Dr. Baker Toastmaster at Banquet

A banquet in the evening at the Hotel Onondaga concluded the days activities. Dr. Hugh P. Baker, Dean of the New York State College of Forestry, acted as toastmaster for the occasion. Musical entertainment during the course of the evening was furnished by the Liberty Quartette and Orchestra. The Misses Gertrude and Ethel Thomas, two very talented young ladies, offered several musical and vocal selections.

Dr. Baker, prior to his introduction of the first speaker, pointed out that the paper industry must be considered to be a progressive one on the basis of the fact that it is the only industry which has changed its raw material within the last 50 years. In addition we are to-day finding further uses for poplar and pine as a papermaking material. The toastmaster further stated that the country to-day would be found with no shortage of pulpwood even if our Canadian and European sources were cut off.

Dr. Baker then introduced Fred J. Rooney, past national president of The American Pulp and Paper Mill Superintendents Association. The speaker stressed the necessity of organizations such as this at present time. If overproduction is to be curbed, a comprehensive program by means of which such a condition may be offset can be largely brought about through the efforts of the superintendents and their organizations. Progressiveness at this period must be the keynote of all mills if they are to be serious factors in the nation's business to-day. The superintendent must be largely responsible for the selling of new ideas on equipment to officials higher up. Association meetings serve as an excellent medium by means of which this information may be obtained by the superintendent himself. New ideas and methods also result from attendance at such meetings.

Professor H. J. Heltman, Syracuse University School of Speech, was introduced as the next speaker. "Personality," the subject of the speaker's address, was defined as that which gets you to some one else. Factors such as physique, voice and manner of speech are material aids to personality. Voice was described as "the electrical pickup of your disposition." Emphasis was made upon the necessity of speaking clearly, since manner of speech serves to distinguish one man from another.

Personality may be considered as the sum total of mind, body and spirit. It is in reality the sum total of the personalities of all the people with whom the individual has contact, particularly in the early years of life. Character was described as the crystallized combine of all of the individual's traits.

The officers elected for the forthcoming year were:

Chairman, Frank A. Johnson, Sherman Paper Co., Watertown, N. Y.; first vice-chaiman, B. D. Millidge, Howard Smith Paper Mills, Cornwall, Ontario; second vice-chairman, John Nolan, International Paper Co.; third vice-chairman, George Pomeroy, Harrisville Paper Co.; Harrisville, N. Y.; secretary and treasurer, Ronald W. Hynes, Newton Falls Pulp and Paper Co., Newton Falls, N. Y.

Southeastern Supers Meet at Lynchburg

THE fall meeting of the Southeastern Division of the American Pulp and Paper Mill Superintendents' Association was held Friday and Saturday, October 23 and 24, at the Hotel Virginian, Lynchburg, Va.

There was a good attendance when chairman R. J. Sprang called the session to order soon after ten o'clock Friday morning. Not much time was spent in preliminaries and the meeting proceeded at once with the election of officers for the ensuing year. The results were as follows:

Chairman, E. H. Neblett, Standard Paper Manufacturing Company, Richmond, Va.; vice-chairman, G. M. Trostel, Champion Fibre Company, Canton, N. C.; Ross Puette, Manchester Board & Paper Company, Richmond, Va.; S. E. Foster, Bedford Pulp and Paper Company, Big Island, Va.; secretary and treasurer, B. K. Steadman, Standard Paper Manufacturing Company, Richmond, Va.

Two excellent papers on timely subjects were presented. The first was on an "Investigation of Sizing Tests" by E. C. Hendrickson, of John H. Heald Company, Lynchburg. The writer undertook to present the results of an investigation carried on to determine the cause of apparent variations in the figures denoting the degree of sizing of coating raw stock. Samples were tested under various conditions of temperature and humidity. Tests were carried on using these methods:

(1) Ink penetration test; (2) water penetration test; (3) Valley size test; (4) porosity test.

It was found (a) That there are factors which affect the measurement of the degree of sizing and which are not eliminated in following any of the named methods.

(b) The ink and water penetration test and the Valley size test may or may not be in agreement.

(c) In all testing, temperature and humidity should be controlled.

(d) The porosity test has no relation to the other three tests.

(e) Variations in results are bound to occur and the results chosen should be the average of several tests rather than depending on the figures of an individual run.

The second paper of the morning was entitled "Chromium Plating in Paper Mills" by J. B. Allen, of the Chromium Corporation of America. The paper was presented with the idea of offering a method which would materially reduce the losses occasioned by wear and corrosion in the paper mill. Plating with chromium is suggested rather than the use of a chromium alloy because it has two inherent advantages—(1) Pure chromium is harder than any alloy of this metal; (2) the use of plating permits the piece to be fabricated from materials most suitable for production purposes.

It is with rolls of various types that chromium plating has found its most extensive application. The life of chilled iron calender rolls has been lengthened enormously by plating with chromium. Screen plates, suction box covers and dryer rolls successfully plated are further evidences of the wide application of chromium plating to the paper mill.

Free and helpful discussion followed before the sitting was adjourned for luncheon.

At the afternoon sitting a paper was presented on "The Bleaching of Southern Kraft," by Mark W. Bray, of the U. S. Forest Products Laboratory, Madison, Wis.

Considerable interest was aroused by the exhibition of samples of bleached pulps which compared very favorably with bleached sulphite.

A round table discussion was begun, with R. J. Sprang as leader. The questions pertained to general mill procedure and a vigorous and informing discussion indicated that this type

of questionnaire is popular with the Southeastern division.

In the evening, southern chicken held sway, some 70 members and guests sitting down to a sumptuous and enjoyable banquet. Toastmaster Sprang, in his inimitable way, introduced Carl Magnus, past president of the national association, and the Rev. R. W. Miles of the Westminster Presbyterian Church, who gave short interesting addresses. Pleasing entertainment was rendered by a Negro quartet, and following this dancing was enjoyed to a late hour.

On Saturday morning there was further discussion of the questions presented at the previous sitting. A committee was appointed, consisting of E. H. Neblett, B. K. Steadman and S. C. Foster, to present resolutions at the next meeting of the division, indicative of the stand it would take on the question of safety measures and insurance in the paper industry.

A golf tournament was enjoyed in the afternoon at the Boonsboro Country Club. Prizes were won as follows:

Low gross, with a score of 81, by Ross Puette, the prize being an electric clock presented by D. J. Murray Manufacturing Company.

Low net, with a score of 75, by Ross Puette, a cup presented by Champion Fibre Company.

Five trophies presented by Milton E. Marcuse of the Bedford Pulp & Paper Company were won in the following order by William Brydges, John B. Christine, B. K. Steadman, C. K. Beecher, V. S. Dennison.

Those who did not play golf made inspection tours of the plants of the John H. Heald Company, and the Bedford Pulp and Paper Company.

A New Composite Metal

The advent of so-called stainless steels—the high-chrome, high nickel ferrous alloys and chromium irons, has revolutionized industry's concept of preventing the destruction of equipment through rust, corrosion or oxidation.

In the pulp and paper industry, there are numerous possible applications of this new stainless alloy, known by such names as Allegheny Metal, Nirosta, Rezistal, Nichrome, Hastelloy, etc. Simple applications are recommended in the construction of vats for cylinder machines, save-alls, deckers, wet machines, etc., head boxes for fourdrinier machines, beater hoods and blow pit bottoms, which require no great thickness of metal plate.

The balance scale of economy applied in the consideration of using these new rust and corrosion alloys as substitutes for wood or cast iron in the construction of vats, head-boxes, etc., or steel plate that must be lined with acid-resisting brick, as in sulphite digesters, is affected favorably by the perfection of a new product recently developed by Industrial Welded Alloys, Inc., New York City, known as "Plykrome."

Plykrome is a composite metal in which stainless steel is veneered and completely weld-bonded to a mild steel slab, and then rolled on a mill to form an integral plate or sheet. It can be made with the stainless ply surface on either one side or both.

Many problems were encountered in the development of this revolutionary product. Oxidation, the great detriment to welding, had to be prevented. The weld between the two had to be so constructed as to permit the expansion of the alloy under the influence of increased temperature without breaking its bond with the steel. Welding had to be accomplished at controlled temperatures which would be effective with the alloy metal but not harmful to the mild steel.

Physical tests pictured in the accompanying illustration, clearly demonstrate that the metal can be handled, bent, drawn, spun or flanged without cracking or parting the alloy from the steel. The oxidation test, while made primarily to measure the resistance of the relatively thin alloy veneer to high temperatures, is the most conclusive evidence of the perfect bonding of the two metals. Anything less than a 100 per cent bond would have resulted in surface cracks, blisters or other evidences of a parting of the bond.

The ratio of alloy thickness to that of the sheet or plate can be anything that is desired. The company recommends a ratio of approximately 1:15 as presenting the opportunity for best economy. In the case of heavy pressure vessels where one-inch plate or a greater thickness may be required, the ratio may be increased up to 1:30.

It is one of the notable advantages of the stainless alloys that their tensile strength is considerably greater than that of ordinary steel. It is even more notable in Plykrome that the increased ultimate strength of the composite product is considerably greater than the proportionate thickness of alloy ply. One series of recent tests disclosed that, while the total

thickness of the plate was increased 7 per cent by applying a veneer of alloy, the ultimate strength was increased 25 per cent.

In the making of Plykrome, a plate of the stainless alloy of predetermined thickness is welded by the maker's special process to the steel slab, billet or bloom, before rolling. It is then rolled in accordance with usual mill practice into plates, bars, sheets, etc. The alloy surface is then sand-blasted, pickled or polished depending on the use for which it is intended.

Equipment fabrication is to be done exclusively at Industrial Welded Alloys plant, following the special alloy arc welding process developed by that company in their handling of the chrome-nickel steels, and the recognized practice for welding the mild steel backing.

New Morse Roller Chain

A new roller chain has been added to the line of precision power transmission products, manufactured by the Morse Chain Co., Ithaca, N. Y. In it are developed features which constitute a real advance in roller chain power transmission.

Within the roller there are two joint members, a segmental bushing and a pin. The cross section of the pin is that of a round pin integral with a segmental bushing. On account of this construction, when a chain is flexing on or off a sprocket, all sliding movement of surfaces under load is between the pin and its bushing, or, specifically, no movement under load occurs between the roller and the joint members. This feature insures uniformity of pitch throughout the life of the chain, and, therefore, smoother and quieter operation.

The open spaces between the joint members provide reser-

voirs for oil and lubrication is made more effective by the "pumping" action when flexing.

The Morse roller chain is made to manufacturer's standards and is interchangeable on all standard roller sprockets. Bulletin R-50 will be sent upon request.

New Signode Box Strapping Machine

A marked advance has been made in the invention of a new box strapping machine which combines into one device the operations that formerly required the use of two tools.

This new device which is known as the Signode Strapping Machine, developed by the Signode Steel Strapping Company, Chicago, both tightens and seals the steel strapping used to reinforce shipments. It greatly simplifies and speeds up the strapping of all types of shipping containers.

Prior to its invention, two tools were necessary. The first, a tightening tool, grasped the overlapping ends of the strapping and brought them together under tension. The second tool locked the Signode seal into the strapping and completed the job.

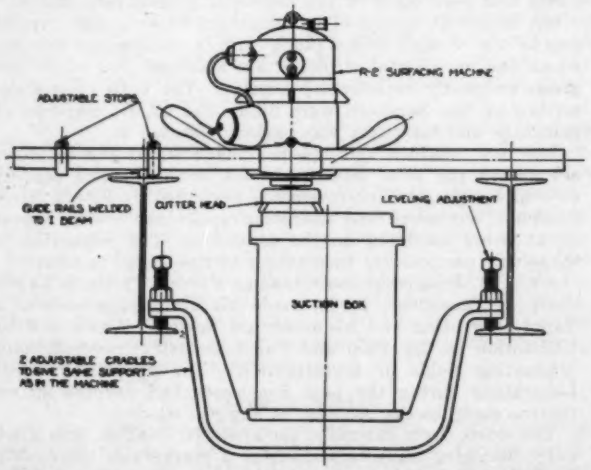
The new machine performs both of these operations with greater speed and accuracy. It tightens easily and quickly with several short strokes of the tensioning handle. The colored trademarked seal is snapped on, and the sealing handle is pressed forward sharply to lock and seal the strap.

The fact that both operations are performed by one machine makes for more uniform tension and assures perfect sealing which is naturally the key to safe shipping.

New Suction Box Surfacing Machine and Jordan Plug Router

A new type of suction box surfacing machine has been developed by the R. L. Carter Co., Inc., New Britain, Conn. It consists of a special motor and meat block attachment with cutter head.

In the smoothing and leveling of suction boxes, it is important that they are held in the same position as they are


R-2 SURFACING MACHINE
ADJUSTABLE STOPS
GUIDE RAILS WELDED TO I BEAM
CUTTER HEAD
LEVELING ADJUSTMENT
SUCTION BOX
2 ADJUSTABLE CRADLES TO GIVE SAME SUPPORT AS IN THE MACHINE

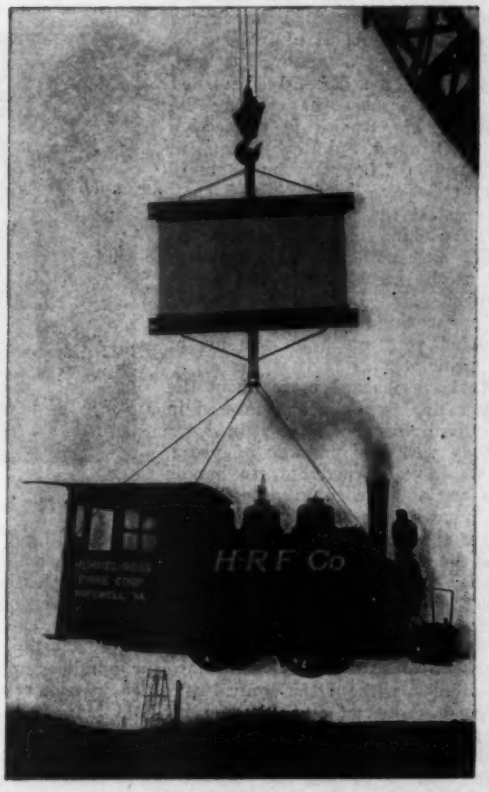
in the paper machine. This is accomplished by moving the two saddles which support the box along the I-beams shown in the accompanying sketch. The leveling of the box is accomplished by adjusting the screws located at each end of the saddle. In adjusting these screws, it is necessary that the top of the box be parallel with the sliding rails on top of the I-beams.

The meat block attachment which rests on the sliding arm, is then adjusted and takes a light cut from along the top of the suction box.

Another application of this Carter tool is that of routing out the wood filler in jordan plugs. When this is done by hand, it is a long and tedious job. By using an R-5 motor with a special sub-base of steel with a small template guide and special bit, this work can be done very quickly.

"Believe It or Not"

Strength of Paper Products Shown in Ripley's Column, Nov. 5



A 15-ton locomotive lifted by a single sheet of .045" kraft board made by the Hummel-Ross Fibre Corporation, Hopewell, Va. This test was recently made by the company to demonstrate the great tensile strength of their all-sulphate board, which is manufactured for use in corrugated and folding boxes. It has a puncture resistance of 450 lb. per square inch and is highly water resistant.

Glass Company Buys Container Corp. Mills

On October 15 negotiations were completed whereby the box plants of the Container Corporation of America, located at Huntington and Charleston, W. Va., were sold to the Owens Illinois Glass company, Toledo, Ohio.

The personnel of the plants has been retained by the Glass Company, and for the time being paperboard is being furnished the plants from the Ohio mills of the Container Corporation.

Bennett S. Chapple, Jr., has been appointed by The American Rolling Mill Co., Middletown, Ohio as manager-director of the Armco distributors association. Mr. Chapple has been associated with the Armco organization since 1928.

Pacific Coast Section of T.A.P.P.I. Holds Fall Convention

HOLDING their first convention on Canadian soil, approximately 50 delegates, representing the Pacific Coast Section of the Technical Association of the Pulp and Paper Industry assembled at Powell River on Friday, October 23, for their annual fall meeting. The general program and the entertainment of the delegates had been prepared well in advance, and the entire proceedings were carried out on schedule. The delegates were kept busy from the moment they landed at Powell River at 8 a. m. until the S. S. Princess Royal tooted a final farewell at 11:45 p. m.

Morning Session

The conference started its morning session promptly at 9 a. m. Three well diversified and interesting papers were on this program and each was the subject of keen discussion among the delegates. Mr. A. H. Lundberg of the G. D. Jenssen Company, Portland, Oregon, who has recently returned from Sweden, gave the meeting the benefit of his studies in connection with the Brobeck Sulphite System, in his paper on "New Developments in Sulphite Cooking."

Suggesting that modern science and modern cooking methods have failed to keep pace with the rapid development of the sulphite industry on the continent, Mr. Lundberg intimated that our cooking methods were still conducted very much on the hit or miss principle.

"We have learned more about the many variables to be encountered in cooking sulphite; we have refined our methods with the passage of years, and we have learned how to handle these variables with greater cleverness, but we have not yet learned how to predetermine exactly what kind of pulp we will get at the end of the cook . . . In recent years changes have come so fast in other directions that to-day we can frankly question ourselves, 'Are we holding our own, or are we losing ground?'"

Mr. Lundberg went on to say that we had been content to rest on our laurels and in so doing, "have sidestepped the real chemical issues." "We still, however, admit the presence of variables, without the control of which we can never win the good wishes of our patron saint, Old Man Uniformity. The pressure of the market to-day, with demand becoming steadily more urgent to improve quality, to say nothing of lower costs—is forcing the sulphite manufacturer to get on the right side of Old Man Uniformity.

"If we could construct an imaginary heaven for the sulphite superintendent, it would be a modern mill equipped with the latest and best developments of science, and over all would rule Old Man Uniformity with a kindly hand. Here would be a mill where the superintendent could say to the cook, "To-day we want a pulp that is just so and so and so." And the super would get it. He could depend on Old Man Uniformity.

"To-day we cook sulphite pulp purely on the basis of a fund of practical experience, a good hunch, and faith in the human element. At the best we are making just a very good guess. We know that things will go on inside the digester over which we have little control."

Circulation in the digesters—or lack of it, according to Mr. Lundberg, "is probably the one single factor more apt to cause poor uniformity than any other in the manufacture of sulphite pulp."

The Brobeck Circulating System, continued Mr. Lundberg, was the only really satisfactory heater design that has been developed to date. Uniformity in cooking, a maximum yield and a reduction of steam consumption were among the important advantages claimed for the Brobeck System by Mr. Lundberg.

The cooking operation in a modern sulphite mill adopting the Brobeck System is greatly simplified, the speaker pointed out and a cook was able to secure his ideal of uniformity. Practically the only thing the cook has to do is to test his acid and keep an eye on the pump. In other words, where the Brobeck System was in operation, a cook was practically certain of the kind of pulp he would obtain at the end of the cook.

Mr. Lundberg explained in detail the operation of the System, and his paper precipitated a general discussion among the delegates.

"Many installations have been made," concluded the speaker, "since the Brobeck System was first placed on the market a few months ago, and to-day it is used on practically every grade of sulphite pulp manufactured."

Following Mr. Lundberg, Mr. P. Sandwell, Powell River Company Resident Engineer, in his paper "Some Dryer Experiments," gave the delegates the results of extensive experiments which the engineering and operating staffs had conducted at Powell River in recent paper machine installations. To obtain desired results on their new machines, the Powell River engineering staff, under Mr. Sandwell's supervision, had perfected and installed new drying devices on recent machines.

Some of the delegates assembled in front of Dwight Hall

"The experiments," said Mr. Sandwell, "were made at a time when a new condensate removal system was being developed and with the object of proving certain assumptions which had been made in the course of preliminary studies."

Mr. Sandwell described in detail the experiments carried out in the Powell River plant with a condensate system, which had been installed on certain machines and which had given eminently satisfactory results. The experiments described by Mr. Sandwell were unfamiliar to the majority of delegates and his paper was eagerly listened to.

The new 234-inch and 226-inch machines at Powell River are among the most modern on the continent and embody several designs and improvements perfected by Powell River Company engineers and operating staffs and which appear on no other machines on the continent. The inspection of these was particularly fascinating to the Tappi members.

Mr. J. H. Jenkins of the Canadian Forests Products Laboratory at Vancouver, B. C., made his first appearance at a Tappi convention and his paper on Sawmill Waste and Its Utilization in the Pulp and Paper Industry, covered many interesting fields of investigation. The Forests Products Laboratory during the past five years had devoted an extensive study to the problem of sawmill waste.

The waste from sawmills, declared Mr. Jenkins, was gradually becoming more important as a marketable commodity. In British Columbia, a considerable portion of the waste log is utilized in the manufacture of lath and shingle bands. As domestic firewood, another extensive market was found. Particularly interesting to the delegates was Mr. Jenkins' statements in reference to mill waste as pulpwood.

Use of Mill Waste as Pulpwood

"The development of the pulp and paper industry on the Pacific Coast during recent years has furnished an outlet for selected mill waste as pulpwood. Unfortunately, however, from the standpoint of utilizing all mill waste for this purpose, a large proportion of the mill waste produced in the Pacific Northwest is composed of Douglas fir, western red cedar, and other species with low pulping properties under present commercial practice. A considerable portion of the slabs, edgings, and trimmings produced as "waste" at sawmills cutting western hemlock, "true fir," and spruce (Sitka and Engelmann) is, however, of a form and character suitable for the making of pulp chips.

"Sawmill waste as a source of raw material for the manufacture of pulp can only be sold on a basis competitive with pulpwood logs. An increased demand for hemlock logs for lumber and the probable consequent rise in price would automatically increase the possibilities of salvaging mill waste for pulpwood. The cost of sorting, barking, and chipping mill waste is comparatively high, and unless the work is efficiently handled and carefully supervised, the margin of profit for the sawmill is low.

"On account of their proximity to large stands of pulpwood timber, the British Columbia pulp mills, at present, are not utilizing any mill waste for pulpwood. The hemlock sawmills in British Columbia are therefore dependent upon the pulp mills in Washington for their markets. In the interior of the province, the hemlock and Engelmann spruce mill waste, well suited for pulpwood, is not utilized, owing to the lack of accessible markets.

"In Washington and Oregon, however, a considerable volume of hemlock and spruce sawmill waste is now utilized for pulpwood, constituting the entire wood supply at certain pulp mills. The location of many new pulp mills in these states has been largely influenced by the accessibility of large supplies of mill waste. In several instances, complete integration had been obtained, the lumber, power, and pulp and paper units being part of one plant.

"An interesting development of the pulp industry in Washington has been the organization of independent companies which act as intermediaries between sawmill and pulp mill. The function of these organizations is to contract for the sawmill waste of a number of scattered sawmills, to install complete chipping plants in those sawmills, and to sell refined chips as a commodity to pulp mills located at other points. The companies salvage as much as possible of the sawmill waste for pulp chips and convert the remaining material into hogged fuel. A number of the smaller sawmills which do not cut enough lumber to afford a continuous supply of sufficient volume for a pulp mill are therefore able to find an outlet for their mill waste through these intermediary chipping companies. The sawmills have long-term contracts with the chipping company, and their responsibility ends with the deposit of their sawmill refuse on the main conveyor. The chipping companies often build their chipping plants straddling the refuse conveyors.

"Most of the sawmill waste utilized for pulpwood is western hemlock, with a small proportion of Sitka spruce. There are, however, two pulp and paper companies in the United States that are purchasing Douglas fir mill waste for pulpwood."

Another interesting utilization of sawmill waste stressed by the speaker, was found in the increasing use by certain industrial plants of hog fuel in their boilers. It was pointed out that the Powell River Company generate over 75 per cent of their steam requirements with hog fuel or sawmill waste. One large Vancouver mill disposes of its entire surplus waste in this manner and has entirely eliminated the old hazardous burner from their equipment.

Business Session

At the conclusion of the morning session, a brief meeting of Tappi members was held to elect officers for the forthcoming year. Mr. Ralph B. Hansen, of the Weyerhaeuser Timber Company, Washington, was the choice for chairman to succeed C. W. Morden; Mr. Ray Smythe, general manager, Willamette Iron and Steel Works was elected vice-president, succeeding Mr. Harry Andrews of Powell River. Mr. E. G. Drew of the J. O. Ross Engineering Corporation, Portland, Oregon, was a unanimous choice for secretary.

Visit to Lois River

Following luncheon, cars were on hand at the Hotel Rodmay to drive the visitors on a tour of inspection over the Powell River Company's recent 22,000 hp. development at Lois River. The Lois River dam is a temporary log crib structure, to be replaced by a permanent radius arched concrete erection when the next machine is installed. One 18,000 kv. a. generator is installed at Lois River and the power is transmitted from this point to Powell River over a 13 mile high tension line. On their return to Powell River, guides were on hand to conduct the visitors over the plant and all availed themselves of the opportunity of seeing No. 7 running at 1,200 feet a minute and of inspecting the new condensate system on the dryers.

The Evening Banquet

The wind-up banquet, held in Dwight Hall on Friday evening was particularly successful. Of special interest to American delegates was the presence of a piper in full Highland costume, who skirled the delegates into the luncheon halls to the tune of Yankee Doodle, (incidentally everyone recognized the tune, dispelling another myth that only one tune can be played on bagpipes). Special souvenir programs and an illuminated sign, bearing the word Tappi, were prepared by John McIntyre, Powell River Company architect. To bring everyone together, the visitors and Powell River representatives were regularly interspersed about the tables, a highly satisfactory arrangement, judging by the enthusiasm later prevailing.

At the evening session, chief interest centered around the addresses of Mr. R. Bell-Irving, Powell River Company, resident manager, and Dr. Jahn of the University of Idaho.

Mr. Bell-Irving, as Pacific Coast representative of the parent body of Tappi, delivered a favorable address, stressing the benefits derived by the pulp and paper industry through the increased encouragement afforded the technical man in recent years, a benefit for which an organization such as Tappi was in no small measure responsible. The speaker warmly defended Tappi from the criticism which had been recently levelled at it by an anonymous writer in a Pacific Coast periodical.

Claiming that the formation of the Pacific Coast Section had resulted in a closer personal contact between the mills of this section, Mr. Bell-Irving went on to say that "we are thus enabled to concentrate on problems which are particularly our own and which by this organization we can bring with greater force through the parent body.

Answering his own question "has Tappi been effective in the fulfilment of its obligations or not," Mr. Bell-Irving went on to say that:

"This is a difficult question to answer in an absolutely specific way, but I believe that a consideration of the standing of the technical man in the paper mill to-day as compared with his standing a very few years ago should at least serve as a very fair indication.

"In this respect I may say that even in the short time during which I have been personally connected with the paper industry, the standing of the technical man in relation to the paper mill has advanced to a truly extraordinary degree.

"A few years ago there were many paper mills who in the strict sense had no technical men at all and there were very few who carried a technical staff of more than one or two. To-day, it is very rarely indeed that you will find a paper mill that does not have at least the nucleus of a technical department and there are a number of individual mills in which the strictly technical organization includes a staff in excess of 20 men.

"In the light of the recent rapid progress in the industry which has been accomplished, both in respect to improvements in methods and quality of product, it must be conceded that these men have made themselves felt, and there is no doubt that they are earning their salt since if it were otherwise they would certainly not survive such difficult times as the present.

"Incidentally the introduction of these technical men into the mill organization has greatly stimulated the interest in

technical subjects generally. Even ten years ago there were many superintendents and foremen who were inclined to view the technical man and the technical line of attack with considerable skepticism, I am forced to admit not without some justification because we were certainly pretty green. However, we soon worked off some of the foliage, with the consequence that to-day such an attitude is decidedly the exception rather than the rule, and there are in fact many of the same superintendents and foremen who have in the meantime acquired the technical point of view and who have qualified for and joined our organization."

Tribute to Tappi

Much of the credit for the increased prestige and responsibility of the technical man in the pulp and paper industry, the speaker considered was due to the formation of Tappi, for he pointed out:

"Tappi has done much to bring the work of the technical man before the eyes of the public, in other words to advertise him, and in these days in order to sell anything it is necessary to advertise. To quote from a very venerable source—

"Let your light so shine that men may see your good works." "I am afraid that in the past the technical man has to his disadvantage been only too prone to disregard this excellent advice.

"Secondly, as previously mentioned, through the exchange of ideas and experiences Tappi has also played a very important part in the education and development of its technical members."

Answering the recent criticism of the anonymous writer that the benefits of an organization were reaped by the manufacturer and not the individual member, Mr. Bell-Irving pointed out, "That if Tappi is of value to the manufacturer, then inevitably and unquestionably Tappi must also be of value to the individual members.

"The Laborer is worthy of his hire," and in my experience he usually gets it. In other words, in the long run the size of a man's pay cheque is usually in fairly close relation to the value of his services to his employer. Of course, there are always exceptions and I have no doubt that each one of us has in mind a very clean-cut and indisputable exception, but these exceptions do not detract from the basic truth of the statement, and there is no doubt that if a man wishes to progress he must demonstrate his ability and in order to do this he must first develop and educate himself.

"In the development of the individual technical man in the paper industry, there are many ways already enumerated in which Tappi can assist. However, it is quite certain that the mere act of admission to membership will not make a better man of anyone of us and the advantage which any individual member may derive from Tappi will therefore depend entirely upon the degree to which he uses its privileges.

"If any further argument is needed to demonstrate the effectiveness of Tappi, I need only point to the salaries paid to the technical paper men to-day in comparison with a few years ago and to the many senior positions which are now held by men who made their entry into the paper industry via the technical route."

At the conclusion of his remarks, Mr. Bell-Irving, on behalf of the executive committee of Tappi presented Mr. C. W. Morden with a gavel of office, which he asked the president to pass on to each succeeding chairman, assuring him on behalf of Mr. Krimmel, President of Tappi, that the Pacific Coast Section could at all times expect the closest and most friendly co-operation from the parent body.

Dr. Jahn's address on "The Use of Cellulose Other than in Woodpulp" wound up the business end of the banquet. The speaker, in detail emphasized the experiments and research conducted by himself and others in Idaho University and the great work of Dr. Hibbert of Montreal in introducing cellulose in many and widely extended forms in industry.

An interesting program had been prepared and for the remainder of the evening the delegates were entertained by several Powell River artists with musical and vocal numbers. Concluding the meeting Mr. C. W. Morden handed the gavel of authority over to Mr. Ralph Hansen, the new President.

New Catalogues and Publications

Borden Company, Warren Ohio—The Beaver Line of pipe tools is the subject of a new condensed catalogue, No. 32. This catalogue is boiled down so that it is very easy to locate just what is wanted. The Beaver Line has undergone important changes. Nine tools have been added and outstanding improvements made in early models.

Bristol Company, Waterbury, Conn.—New publications just issued by this company include Catalogue No. 2050, entitled Pyrometer Controllers, for the automatic control of high temperatures, and No. 2025, in which are illustrated and described Bristol Thermometer Controller and Recorder Controller.

Brown Instrument Co., Philadelphia—A new flow meter catalogue No. 2002, features the latest developments in this company's line of electric flow meters operating on the inductance bridge principle. One of these new developments is the low range manometer, an instrument for measuring the flow of gases. A complete description of the manometer with accompanying illustrations and diagrams will be found in this catalogue.

General Electric Co., Schenectady, N. Y.—The G.E. line of direct-heat metallic-resistor electric furnaces has been improved and enlarged during the last decade and a new Bulletin GEA-1146-A gives a complete, illustrated description of this line of furnaces. The descriptions are amplified with a number of heating and temperature curves.

E. F. Houghton & Co., Philadelphia, Pa.—"Vim Short-Center Drives" is the name of a new 148-page belt treatise compiled by the engineering research staff of this company. The book contains charts, tables, and engineering data on 5,000 standard Vim efficiency drives ranging from 5 to 100 hp. The book was published originally for the company's own use and is not for general distribution. However, copies will be delivered by a Houghton distributor to executives and engineers directly interested in transmission who will send their requests in writing on the letterhead of the concern or individual.

McLeod & Henry Co., Troy, N. Y.—A new bulletin, No. 231, describes this company's boiler furnace linings, walls and arches made of steel mixture refractories. This bulletin explains in details the many different arrangements of settings for water tube and horizontal return tubular boilers, fired by oil or by coal with various types of stokers. Flat suspended arches for water tube boilers and back combustion chamber arches for horizontal return tubular boilers are also featured, together with various other designs of arches for furnaces and boiler doors. There are a large number of illustrations of installations, diagrams of typical settings and two-color wash drawings, showing applications of the various types of steel mixture products. Copies upon request.

Moore Steam Turbine Corp., Wellsville, New York—This company specializes in the design and manufacture of steam turbines to meet the needs of paper mills, and has issued a booklet entitled "Equipment for Paper Mills." Types of equipment covered are paper machine drives, turbo-generator units, auxiliary drives and centrifugal pumps. The book is profusely illustrated with photos of installations and connections, and there are also a number of diagrammatic layouts.

Reliance Electric & Engineering Co., Cleveland, Ohio—"Profitable Ways to Use Adjustable-Speed Motor-Drive" is the title of a book just published by this company. This book has been carefully compiled and printed. Such subjects as the type of motor, speed control, voltage control, etc. are discussed in concise, non-technical terms. Among the chapters devoted to applications in specific industries, the one devoted to paper mills is highly interesting. A list of well-known companies using the Reliance adjustable-speed motor-drives include a number of representative paper mills. This book is printed in two colors on coated paper with board cover.

NEW BOOKS

Paper-Making in the Classroom—This book by Dard Hunter, has recently been issued in response to many requests from teachers for a small, concise, and non-technical description of papermaking. It is just what its title indicates—it explains in detail just how paper is made by the hand process and how it may be made in the schools. It gives the novice an insight into the art of forming sheets of paper by hand, using only simple and inexpensive equipment. The author is well-known as a practical papermaker, as well as an authority on the history of papermaking. The early part of the book is devoted to the history of writing materials. Beginning with the use of stone by the Egyptians, bricks by the Chaldeans, brass, copper, bronze, and lead by the Romans, wood by the early Greeks, etc., down to the manufacture and use of paper by the Chinese in 105 A. D., constitutes a very interesting section of the book. This historical material will appeal to older people as well as the youthful papermaker, for it is not so detailed as to make it wearisome. This book has been published by The Manual Arts Press, Peoria, Illinois, contains 80 pages, and is priced at $1.35 per copy.

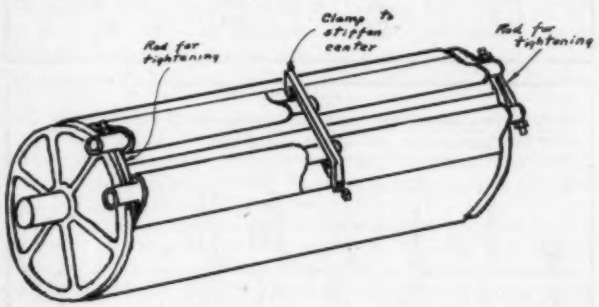
Forest Management—Herman H. Chapman, Harriman Professor of Forest Management, Yale University, School of Forestry, is the author of this work, which has just been announced by the publisher, J. B. Lyon & Co., Albany, N. Y. The book is divided into three parts: (1) The place of forest management in forestry; (2) forest organization; (3) forest regulation. The student, professional forester or lumberman will find this volume one of exceptional interest and inestimable value. There are 544 pages, 24 figures, and the price is $4.50 per copy.

Practical Helps for the Mill Man

Putting on Cylinder Facing of Corduroy Cloth

A GOOD many mills are finding the use of corduroy wire cloth, sometimes known as Dutch weave or rep weave, an economy when used as a cylinder facing where it is not necessary to take off a continuous sheet. Some hints on putting on corduroy cloth are given by a man with considerable experience in this work.

The sketch shows the harness which is used in putting on the cloth. As the seam is soldered and the cloth is very stiff, the partial harness ordinarily used for putting on cylinder facings is not satisfactory. A full width strap can be made from dryer felt. This has loops at each end through which



three-inch pipes are passed. These pipes are drawn together by inch rods passed through holes bored in the pipes, and the rods are threaded for nuts which are tightened to draw the cloth to the desired tightness. To avoid the bad effects of a spring in the center of the pipes where the cylinder mould is very long, a clamp is used in the center, as shown in the sketch. To keep the pipes from binding on the end spiders of the cylinder mold, a small wedge is slipped under each end of each pipe where it bears on the end spiders.

Eliminating Static Electricity from Belts

THIS question is frequently asked: "How can I get rid of static electricity on my belt drives? Can it be done?"

Answer: Yes, it is possible to prevent the formation of static electricity in belts. It is simply necessary to make the belt a good conductor of electricity or use a belt that was a good conductor in the first place. Thus if the belt were made entirely of metal there would be no static. Static difficulties are never experienced in a machine, for instance, that is made wholly of metal. It is only when non-conductors are present that static difficulties arise.

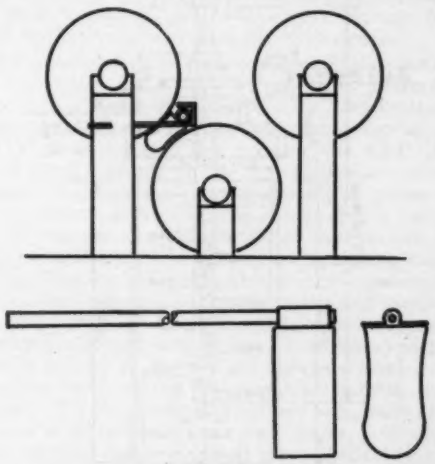
Powder manufacturing companies are exceedingly careful about preventing the formation of static, and they are successful in so doing. I have authentic reports concerning one large powder manufacturing company whose research engineers found that a graphite solution is very effective as a preventive of static. That, of course, is due to the fact that graphite is an excellent conductor of electricity. Another powder manufacturing company uses 50 per cent glycerine and 50 per cent water, which solution is all right so long as its application is continued. That is, the belt must be maintained in a moist condition and must not be allowed to become dry. By applying automatically every once in a while, thereby eliminating the human factor, the belts can be maintained in a properly moist condition indefinitely.

Static electricity is generated by belt slippage and by the continuous making and breaking of contact between the belt and the pulleys. It is also generated by friction of the belt with the surrounding air. The potential or voltage is always highest half way between the pulleys and that is why, when combs are used, the combs should be placed at the mid point of the belt.

Use a high grade pliable high friction belt, which will not slip, which has good conductivity, and which is smooth on both sides, and serious static troubles will never be experienced. It is preferable to use a high quality two-ply belt because both sides of double belts are always smooth.—W. F. Schaphorst, M. E.

Sanding Dryers

ONE fine-paper mill superintendent believes that his dryers are not sufficiently cleaned by scrapers. He sandpapers his dryers. The sketch shows the device used for this purpose. At the lower part of the sketch is shown the wooden block



attached to a long pipe handle on which the sandpaper is glued. Above is shown a hook which goes around the dryer frame at some convenient point so that the rod may be controlled and the sandpaper block kept down where it will be in contact with two dryers at once. This device gives the superintendent very clean dryers with consequent steam economy and improved surface on his paper.

George W. Moore Co. Joins Link-Belt

The merger of the George W. Moore Co. of Chicago, with H. W. Caldwell & Son Co., a subsidiary of Link-Belt Co., is announced by Alfred Kauffmann, president, Link-Belt Co. The combined units are to be known as The Caldwell-Moore Division, Link-Belt Co.

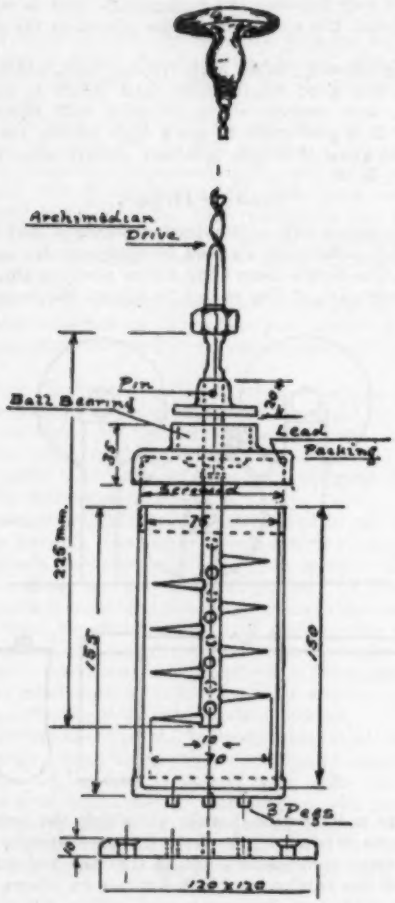
Max H. Hurd, formerly president of the George W. Moore Co. becomes a vice president of Link-Belt Co., in charge of the Caldwell-Moore operations. His headquarters will be at 2410 W. 18th Street, Chicago.

Thus the facilities of two well-known manufacturers of similar lines of conveying equipment are consolidated in the interest of better service to the jobber and consumer, and Link-Belt Company acquires an entirely new line of manufacture, Salem Elevator Buckets, an important specialty of the Moore Company.

Mr. Kauffmann states that there will be no modification of the policies of the two companies, and no change in the diversity and character of products.

Quantitative Determination of Groundwood in Paper

In an article on the quantitative determination of groundwood pulp in the Papierfabrikant, a new pulp and paper disintegrator is described, as shown in the accompanying illustration which is taken from a translation supplied by J. Melrose Arnot to the World's Paper Trade Review. In estimating the amount of groundwood pulp contained in a specimen of paper, four grammes of the paper are disintegrated, in the apparatus shown, with exactly 200 cc. of hot water. The substance adhering to the cover and to the stirrer is washed back into the



container with 25 cc. of water, and the whole left for half an hour in a water bath at 25 deg. C., to secure even swelling. Then, by means of a pipette, 100 cc. of normal potassium permanganate solution are added, and the mixture is left for an hour at 25 deg. C., with frequent stirring with a glass rod. The mixture is then filtered, and from the filtrate 10 cc. are taken for back titration. This is carried out as follows:—30 cc. of N/10 oxalic acid and 50 cc. of water are heated to boiling, acidified with dilute sulphuric acid and 10 cc. of the filtrate added; discoloration at once takes place. The excess of oxalic acid is now titrated with N/10 permanganate solution; the quantity required gives directly the percentage of groundwood by reference to table I.

The quantity to be weighed, viz., four grammes, was selected because with five grammes of substance containing 100 per cent of groundwood, the prescribed 100 cc. of N/1 permanganate, is insufficient.

The construction of Table I is explained. When it had been determined that by this method bleached stuff gave practically zero, mixtures of bleached stuff and increasing quantities of groundwood were prepared. Then a moderately hard pulp (Roe 5.3; Roschier 67) was mixed in the same proportions with groundwood, and the permanganate number determined. Finally, an extremely hard stuff (Roe 11.3; Roschier 22) was tested in the same way. The relationship of the results thus obtained is shown in Table II.

It is evident from this comparison that the permanganate test of a bleached stuff may be neglected for practical purposes, while a medium hard unbleached pulp gave a test of 4.7, and an extremely hard unbleached pulp gave a test of 10.0. Now, from experience, one may say with certainty that an average woody paper contains neither bleached stuff nor extremely hard pulp. Therefore, in reality, one comes nearest the truth if one uses the scale of the permanganate test for mixtures of groundwood and a moderately hard unbleached pulp, but to provide for all eventualities and to take account of all possible variations in stuff, in constructing the table use has been made of the average of all three permanganate tests on the bleached, medium hard and extreme hard pulps, and it will be observed that this average agrees practically with the figures obtained from a mixture of groundwood and a medium hard pulp. In order to render the table handier for practical use, round figures have been given for the averages of the three tests without detracting from the precision of the method, so that in future one is in a position to state the groundwood content from 0 to 100 per cent, with an exactitude hitherto unknown.

TABLE I.

Relation between the permanganate test and the groundwood content (absolutely dry substance weighed four grammes).

Permanganate test. cc.	Groundwood content. Per cent.	Permanganate test. cc.	Groundwood content. Per cent.
5·0	0	19·7	55
6·5	5	21·0	60
8·0	10	21·5	65
9·5	15	22·0	70
11·0	20	23·2	75
12·5	25	24·5	80
14·0	30	25·7	85
15·0	35	27·0	90
16·0	40	27·5	95
17·2	45	28·0	100
18·5	50		

TABLE II.

Permanganate Tests on Mixtures of Groundwood and Cellulose.

Composition			Permanganate Test			Mean	
Test No	Groundwood %	Cellulose %	Bleached stuff	Unbleached medium hard stuff	Unbleached very hard stuff		round
1	0	100	0.2	4.7	10.0	4.9	5.0
2	10	90	3.6	7.8	11.8	7.7	8.0
3	20	80	8.2	10.1	14.8	11.0	11.0
4	30	70	11.4	13.3	17.1	13.9	14.0
5	40	60	13.8	15.9	18.6	16.1	16.0
6	50	50	17.0	18.6	20.3	18.6	18.5
7	60	40	19.9	20.9	22.2	21.2	21.0
8	70	30	21.9	21.9	23.3	22.3	22.5
9	80	20	24.1	24.1	25.4	24.5	24.5
10	90	10	26.3	26.2	27.8	26.7	27.0
11	100	0	28.0	28.0	28.0	28.0	28.0

Leavenworth Made General Advertising Manager of Westinghouse

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. announces that Ralph Leavenworth has been appointed general advertising manager of the company, with offices at the headquarters of the company in East Pittsburgh.

In 1923 Mr. Leavenworth became an account executive for Paul Teas, Inc., advertising agency, where he remained for six years, becoming part owner of the company. On January 1, 1930, he joined the Austin Company, Cleveland, large engineering and building organization, as assistant general sales manager.

The Month at Washington

CREDIT Corporation Enjoys Widespread Support—The $500,000,000 National Credit Corporation organized at the instigation of President Hoover to liquify frozen bank assets, already has helped to restore public confidence and is making direct, specific accomplishments, it was stated at the White House. Almost universal support is being accorded the project by the banking world. The President expressed his gratification that so great a change in the credit situation had resulted since its organization. He said that the whole picture of the financial situation in this country, both domestic and as influenced from abroad, had changed within the course of the last three weeks. Bank failures have slowed down considerably as a result and money is being placed back into the banks.

National Economic Council—A special subcommittee of the Senate is studying proposals for the establishment of a National Economic Council, and various opinions are being expressed at the public hearings which are being held by the committee. In some quarters it was said that trade associations could not stabilize business; in others that while much could be done along the line of economic planning, voluntary co-operation of governmental agencies with business units would be more effective than any fixed organization, having economic planning as its function.

Still others argued that only the Federal government could set up a planning board that would be capable and public minded enough to regulate successfully the forces causing economic chaos, and that business enterprises had shown little indication of their ability to combine the facilities necessary to cope with problems of a public nature.

Others urged the adoption of a system of economic planning to aid trade and that a federal board for the control of business would be a step with results achieved by the use of the Federal Reserve Board in the banking field. The system could be either advisory or compulsory. American business has spent generously for technical advice but has failed entirely to employ economic counsel.

Anti Trust Laws Obsolete—Modification of anti-trust laws to enable industries to regulate operations under agreements subject to abrogation by a government commission, was advocated before a special subcommittee of the Senate, with less restriction on agreements in industry, and with federal supervision of compacts advisable by a national council. Such a step would do more to stabilize business, prevent wage cuts and stimulate economic recovery than any other one thing.

National System for Co-ordination of Trade—The Department of Commerce is developing a program for economic stabilization, says the Director of the Bureau of Foreign and Domestic Commerce, Fredk. M. Feiker, with a national system for co-ordination of trade. "The time has come for definite action by American business" he says, to prepare effective economic plans," who explained that the program in final form will shortly be made available to trade and industrial organizations.

Economic planning will include market research and analysis, product research, investment and equipment-replacement program, budgeting, forecasting, statistical control, simplification and development of standard specifications, development of sound inter-industry relations, wages and employment policy, and adoption of standard trade practices.

Work Insurance Essential—Unemployment insurance is essential to American industry but it is a palliative and only one factor in the major problem of stabilizing employment, the Special Senate Committee investigating unemployment insurance under the authority of a resolution (S. Res. 483) passed by the Senate last March. Plans for unemployment insurance should be financed by joint contributions of employers and employees because government contributions would result in economic restraints. Others expressed themselves in favor of voluntary action by industry in initiating unemployment insurance, rather than legislation which would compel the setting up of such systems by each industrial unit, although admitting that legislation would be necessary to make all business concerns take such a step.

Canadian American Customs Union Urged to Help Trade—The President was requested to open negotiations to the end that there might be adopted between this country and Canada a form of customs union, so that the reciprocity agitated for so long a period might become finally a reality. Freer commerce between the two countries is needed, according to Congressman Cellar of Brooklyn, sponsor of the plan. The difference between the United States and Canada is only the difference that exists between any two of our states, and that with freer commercial intercourse the depression would be somewhat assuaged. He will urge Congress to enact reciprocal tariff arrangements at the next session.

Sales Tax Legislation Coming—Many of the so-called nuisance levies of the war days are likely to be revived at the coming session of Congress, according to Senator Reed, who also predicts a sales tax law at the coming session of Congress. "If nuisance taxes are revived," he said, "I would like to see them assessed on the manufacturers rather than the retailers, because such taxes should be raised at the source." From other sources, it is also predicted that a sales tax will be enacted to meet the deficit now in the Federal Treasury, though limited in nature, and excluding foodstuffs.

From the Treasury department comes the statement that the Federal Government is studying ways and means of increasing the Federal revenue through a broader tax base, predicted upon a selective sales tax. Confronted with a deficit of $903,000,000 at the end of the last fiscal year, the conclusion has been reached that new sources of income must be employed. To date, little mention has been made of changing the federal estate tax to war time levies, a field in which millions of revenue can be obtained without affecting industry or business. Undoubtedly the income tax for individual and corporate incomes will be changed to higher percentages and less exemption.

Waxed Tissue Paper Simplification Program—The simplification progam on waxed tissue paper is effective as of November 1. Waxed paper, covered by this recommendation of simplified practice, is paper treated with paraffin wax in order to fill the pores of the paper to make it resistant to moisture and to odors. Its principle use is to protect food products from dust and vermin. The estimated total value of the annual production of waxed paper is $25,000,000, with a volume of more than 250,000,000 pounds per annum. The program establishes uniform qualities of raw stock for this material and eliminates many sizes of sheets and lengths of household rolls. Of special interest is the elimination of the 400 sheet ream. The elimination of inferior quality papers and wax will also insure a better product to the consumer, while concentration on the reduced number of sizes will be of assistance to the manufacturer in improving his products and rendering better service to distributors and users.

Interstate Commerce Rulings—While denying the plea of the Nation's railroads for a 15 per cent blanket increase in all freight rates and charges, the Interstate Commerce Commission offered a substitute plan which would permit emergency increases on certain commodities ranging in some instances to ten per cent of the present carload charges (Ex Parte Docket No. 103). Under the substitute plan some shipments would receive flat per car advances and an increase of one cent per 100 pounds effective; other commodities would

be increased two cents per 100 pounds, with a ten per cent maximum; switching charges would be advanced a flat ten per cent. Action followed four months of hearings throughout the country and is the most rapid decision ever made by the Commission in a case of this magnitude. Thousands of letters of protest were received from all over the Nation and practically every commodity moving in interstate commerce was covered.

The rate on scrap wood pulp board, in carloads, from St. Louis to Johnson City, N. Y., was found unreasonable, but not otherwise unlawful, in another decision (No. 23830) and a reasonable rate was prescribed for the future, with reparation awarded.

The rate charged on printing paper, other than newsprint, carloads, from Hamilton, Ohio, to Dallas and Fort Worth, Tex., was found not unreasonable in another decision and the complaint was dismissed (Southwestern Paper Co. vs. B. & O., No. 24086).

In West Dudley Paper Co. vs. N. Y., N. H. and Hartford R. R., No. 23448, the commission found the rate on paperstock and wood pulp board, in carloads, from West Dudley, Mass., over an interstate route, to Chelsea, Mass., unreasonable; also rate on like traffic to Pawtucket, R. I., and reparation was awarded the complainant.

Rates on pulpwood, in carloads, from Whitco and Raco, Mich., to Nekoosa, Wis., were found not unreasonable in another decision (No. 23869).

The Commission, upon reconsideration, reversed its former finding that rates from Brooklyn, N. Y., to Harlem River Terminal, N. Y., on wrapping paper, in carloads, originating in Washington and Oregon was unreasonable, and dismissed the complaint (No. 23050).

By an order just entered in I. & S. Docket No. 3647, the commission suspended until May 22, 1932, the operation of certain schedules proposing to restrict the routing on wood pulp board, carloads, so as not to apply via routes east of the Illinois-Indiana State line when destined to points in Illinois and Missouri, on traffic from International Falls, Minn.

Wholesale Prices—The index number of wholesale prices, as computed by the Department of Labor, shows a decrease for October of a little more than one and a half per cent, or a decrease over the same month last year of 18 per cent. With 1926 as the basis of 100, we find the following changes for paper and pulp:

Oct., 1930	Sept., 1931	Oct., 1931	Purchasing power of dollar
83.5	80.1	80.3	1.245

Employment Situation—Changes in employment and payroll for October as compared with September, based on returns made by 47,521 establishments in 15 major industrial groups, employing 4,707,018, show an increase of .8 per cent in employment but a decrease of 2.8 per cent in earnings. With 1926 as the average of 100, we find the following changes:

	Employment			Pay-roll totals		
	1930	1931		1930	1931	
	Oct.	Sept.	Oct.	Oct.	Sept.	Oct.
Paper and printing	95.0	89.2	88.4	98.5	86.3	83.9
Paper and pulp	88.0	81.2	79.5	83.6	69.5	64.2
Paper boxes	90.6	81.1	83.1	93.6	78.0	77.7
Printing, book and job	95.3	88.4	86.0	98.4	85.0	80.8
Printing, newspapers	107.4	102.6	103.0	110.8	102.2	103.2

Placing the Jobless—Since the establishment of the Federal employment offices in cooperation with State, and municipal, a total of 94,246 jobless persons were placed in one month, representing 42.5 per cent of the 221,244 registrations. California led all other states in the number of placements, with Alabama at the bottom of the list. New York, New Jersey, Oregon, Ohio and Illinois also shone as placements.

Adopting Plan of Dismissal Wages—Plans for the payment of dismissal compensation are of comparatively recent origin in the United States, but a recent study lists 49 companies which have adopted the principle of payment of compensation to workers who are dismissed through no fault of their own, says the Bureau of Labor Statistics. The details of the plans vary, but they are alike in accepting the principle of the employers' responsibility for the prevention of permanent layoffs or the lessening of hardships when they cannot be prevented.

❖ NEW YORK CITY ❖

New Paper Company Formed

The Whiting-Patterson-Supple Company, Inc., has been organized to take over the fancy paper business of the Whiting-Patterson Company, Inc., operating from the same address, 386 Fourth avenue, New York. L. F. Supple, for the past six years treasurer and general manager of the Whiting-Patterson Company, Inc., is president and treasurer of the new company.

The new organization will concentrate on the distribution of papers particularly adapted for the paper box, greeting card and papeterie trades throughout the United States, handling all of these lines which hitherto have been merchandised by the Whiting-Patterson Company, Inc., and including the John Dickinson & Co., Ltd., line of English fancy papers. The new company will continue the Boston and Chicago branch offices, and also have the same agents in St. Paul, Minneapolis, Denver, Seattle, Los Angeles and San Francisco.

David Kuhmarker, founder and president of the Kuhmarker Waxed Paper Company, Inc., of 515 West 26th street, New York, and long a prominent figure in the wax paper branch of the industry, died on October 15 at his home, 710 West End avenue, New York, after an illness of two months. He was 68 years old. Born in Austria, Mr. Kuhmarker came to the United States at the age of 20 and worked in an Easton, Pa., paper mill for several years. More than 30 years ago he established his company in New York, it being one of the first firms to manufacture waxed paper in this city. A Mason and a member of the Samaritan Society, Mr. Kuhmarker was active in charities. A widow and a daughter survive.

J. A. McCann, who has been connected with the New York offices of the Whiting Paper Company for many years, has been appointed sales manager, succeeding Mr. Chapin, who recently resigned.

Joseph L. Fearing, vice-president and sales manager of the International Paper Company, has announced from the New York headquarters of the company that the Seaman Paper Company will continue, as in the past, to handle the major portion of the product of the International's mill in Tonawanda, N. Y. The unsold balance of the output of the mill, formerly owned by the Tonawanda Paper Company, will be sold under Mr. Fearing's direction through the sales department of the International Paper Company.

The Marantz Paper Company, Inc., paper and twine merchants of 705 East 175th street, New York, has assigned to Alexander C. Russotto, of 583 Riverside Driver, New York. Judge Bondy later appointed the Irving Trust Company receiver for the company.

A petition in bankruptcy was filed on October 13 against the Blackshire Paper Company, of 31 East 33rd street New York, and the Irving Trust Company afterward was appointed receiver by the Court.

Raymond Bee, for many years with the United Paperboard Company, Inc., with headquarters in New York, has resigned as vice-president and sales manager of that company to become sales manager of the western division of the Southern Kraft Corporation and the Continental Paper and Bag Corporation, with headquarters in the Builders Building in Chicago. Mr. Bee was with the United for 26 years holding positions in various capacities in several parts of the country.

The Superfine Paper Mills, Inc., of New York City, manufacturers of paper products, have increased their capitaliza-

tion from $15,000 to $150,000 to provide for contemplated expansion.

Jules L. Stille, well-known in the trade, has joined the sales staff of the St. Regis Paper Company in the New York offices of the company at 60 East 42nd street.

◆ NORTHERN NEW YORK ◆

Harry S. Lewis, Beaver Falls paper manufacturer, and interests allied with him, including Harvey Smith of Syracuse, have acquired control of the Kleen Kap Corp., manufacturers at Liverpool of a special milk bottle cap used throughout the country. The controlling interest was held formerly by the estate of John A. Pease, who established the Netherland Dairy Co. of Syracuse and later the Kleen Kap Corp. He conceived the idea of the new milk bottle cover a few years before his death in December, 1928. Walter G. Laidlaw, vice-president of the Netherland Co., remains as president of the Kleen Kap Corp. despite the shift of control. The large plant at Liverpool is producing 1,000,000 caps daily. These are used in cities throughout the nation. The cap covers the entire top of the milk bottle insuring cleanliness.

A patent protecting ten claims of new patentable features has been issued Frank M. Williams of Watertown. Mr. Williams' invention is a device for determining the freeness of paper pulp which embodies a container for a sample of pulp to be tested, and a screen through which the pulp is discharged, and another container to receive the tested pulp. Mr. Williams filed his claim for patent rights with the patent office at Washington on May 11, 1927.

An out-of-court settlement wherein the defendant paid the full amount due, $2,050, was reported in the recent term of supreme court in Watertown in the contract action brought by the Island Paper Co., Carthage, against the Great Atlantic Paper Co., Inc., of New York city. The action was brought to recover for paper sold, and for which the defendant did not at first pay because of the claim that it did not meet its specifications.

With the opening of the deer hunting season Oct. 26, a group of men prominent in the paper industry in the East went into the Adirondacks at Granshue as guests of the Racquette River Paper Co. of Potsdam on a hunting expedition. The Potsdam company has a camp in the heart of the hunting country, six miles from the nearest mountain road.

Y. Awyoama, R. Awyoama and R. Okawa, officials of the Fuji Paper Co., Tokyo, Japan, recently visited the plant of the Bagley & Sewall Co. in Watertown. The Fuji Paper Co. controls 16 paper mills, and eleven of its papermaking machines are of Bagley & Sewall manufacture.

There has been a marked uptrend in business at the Taggart Co. bag mill in Watertown. The plant, which turns out flour and cement sacks of the multiwall variety, is running nearly to capacity and operating three nights a week as well as days in order to meet orders. About 150 hands are employed. The Herrings mill of the same company is also doing a good business in the manufacture of bags.

Alleging that Watertown is being discriminated against in the matter of freight rates on waste paper, in carloads, from Boston, New York, Philadelphia and Babbitt, N. J., to Watertown and Carthage, the Carthage Pulp & Paper Co. and the Hinde & Dauch Paper Co. have petitioned the Interstate Commerce Commission to reopen the case and to give reconsideration to the evidence. The petition charges the commission failed to give full consideration to evidence presented by the complainants.

Dr. S. W. Stratton

On Sunday, October 18, shortly after dictating a tribute to the memory of his friend Thomas Alva Edison, Dr. Samuel Wesley Stratton, chairman of the corporation and former president of the Massachusetts Institute of Technology, former director of the Bureau of Standards and distinguished physicist, died suddenly at his home in Boston in the 71st year of his age.

Doctor Stratton had returned a week previously from a month's trip to England where he attended the Faraday celebration. On Sunday he had been besieged with requests from newspapers for comment upon the death of Thomas A. Edison. As he sat in his living room, dictating to his secretary, he was stricken and died almost instantly. A few moments before he had said of Edison:

"It has seldom fallen to any one man to be of such service to humanity. The world mourns a great benefactor."

A few hours later distinguished men and women throughout New England were saying the same thing about the man who was the originator of the Bureau of Standards.

Doctor Stratton became head of the Bureau of Standards in 1901, as soon as the bill for its establishment had passed Congress. He was virtually the founder of the bureau, the idea of its organization having been conceived by him when he saw the need for some central department which would have the custody of standards used in scientific investigation. The formation within the bureau of a Paper Section followed soon after and the work of this section is now well and favorably known throughout the paper industry. Until he became president of the M.I.T. in 1923, he was a director of the bureau, which grew from a small organization of 24 employees in temporary quarters near the Capitol to a research institution with 1,900 workers and 14 permanent buildings.

◆ OHIO ◆

Miami Supers Hold First Fall Meeting

The first fall dinner-meeting of the Miami Valley Division of the American Pulp & Paper Mill Superintendents Association was held Saturday, October 10, at Franklin, Ohio.

Election of officers for the coming year was held with the following results: Marshall L. Barker of The Beckett Paper Co. was re-elected Chairman; H. H. Harrison of Crystal Tissue Co. was elected first vice-chairman; John Ditmyer of The Gardner & Harvey Co. second vice-chairman; and Roy Maggart of The Champion Coated Paper Co. third vice-chairman. Valentine Frederich, Jr. of The Beckett Paper Co. was reappointed secretary-treasurer.

Mr. Barker was highly complimented for his successful efforts during the year just past. It was recalled that he had secured excellent speakers all through the year and was always on the job for the good of the association.

Robert L. Eminger, National Secretary, in a brief talk, announced that the National Executive Committee meeting would be held in Buffalo, N. Y., November 1, at which time the date and location of the next national convention will be decided. He expressed the belief that New York would be selected as the convention state.

It was voted to hold the next meeting of the Miami Valley Division on Saturday, November 21, again at Franklin.

Joseph H. Wallace of The Black-Clawson Co., Hamilton, Ohio, talked on his experiences in connection with pulp and paper mills in this country and in Europe. His first mill was the Wm. A. Cole Paper Company at Putney, Vt., and he stated that in 1930 it was still running when he made a visit there. The second mill he built was the Esleek mill at Turners Falls, Mass., followed by the Montague Paper Company, which afterwards became the International Paper Company. In the course of his discussion he mentioned many other mills in which he had a part. Several years were spent in Europe designing, building and operating mills there.

In the southern states of this country, about 1906, he said he became interested in southern pine woods. While buying lumber for the mills they were building, in Europe, he said,

Other paper manufacturers are saving with TIMKENS—why not YOU?

For years friction has continually robbed the paper industry of a large percentage of its hard-earned profits, but now its depredations are being halted.

Forward-looking manufacturers like the Champion Coated Paper Company have seen and are grasping the opportunities for savings afforded by Timken Bearings.

Super-calender production has already been increased 37½% by placing calender stacks on Timkens. Calendering speed has been stepped up 40% without any change in power equipment.

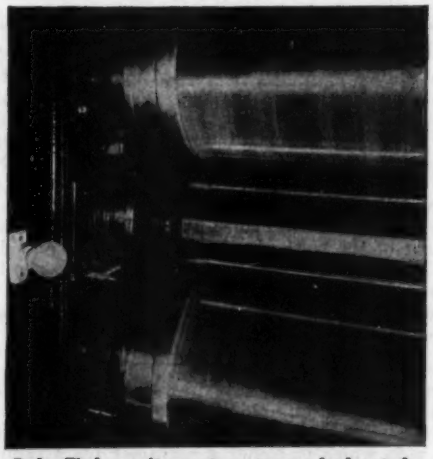
With calender and winding mechanism rolls freed from friction's drag, paper speeds of from 900 to 1300 feet per minute have been made possible. Paper breakage has been reduced. And while speeds have gone up, power and lubricant consumption have gone down. In fact the power reading at Champion is approximately one-half of what it was with lower production on plain bearing super calender stacks.

But it is not only in calenders that Timken Bearings have proved their ability to increase output and cut costs. In paper making machines—on wire rolls, press rolls, felt rolls, drier rolls and couch rolls—equally splendid results have been obtained.

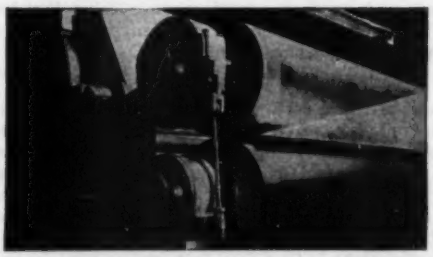
Timkenize your mill now for maximum output and profits. Consult the builder of your machines.

THE TIMKEN ROLLER BEARING CO., CANTON, O.

TIMKEN *Tapered Roller* **BEARINGS**

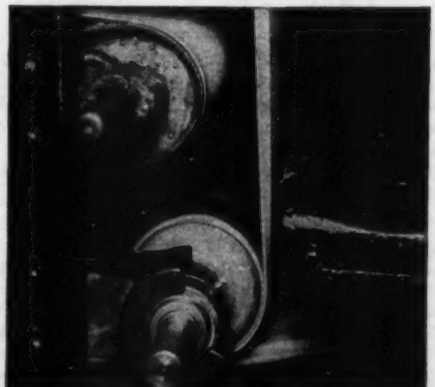


Dodge-Timken unit mounts on super calender stack.



Press rolls equipped with Dodge-Timken unit mounts.

Spring roll equipped with Dodge-Timken unit mounts.



Felt rolls on Dodge-Timken unit mounts (lower) and plain bearings. No lubricant leakage with Timkens.

they came to the lumber mills at Savannah, Ga., and noted the waste burners all over the harbor. He stated that their observation and what followed moved the wrapping paper business to the South. Successful developments of Southern pine caused projects to be promoted, designed and built, the Southern Paper Company at Moss Point, Miss., being first. Mr. Wallace explained that in this mill they acted as vice-president and general manager for the first three years of operation. In going about the development, they hired the sulphate mill at Billingsfors, Sweden. They took a shipment of material from the vicinity by boat from Gulfport to Sweden, and, in the presence of a critical committee, made tests. The committee saw pulp made from Southern pine and this pulp made not only into kraft but also in fine book and magazine papers.

When the mill was sold to International Paper Company, Mr. Wallace commented, a chapter was completed that satisfied those who took part in the demonstration of kraft paper from Southern pine, from which point the South went on building kraft paper mills until the kraft paper market was crippled. None would look at the two other possibilities that were more attractive, that is, white papers of high character and by-products from chips before digesting, that would pay for the wood and make the paper operations easier and of higher quality by standardizing the raw materials.

He further said, when they started promoting the mill at Moss Point to make kraft from resinous pine wood they had howls of derision. Indeed, mills are spending time and money today on various devices and methods to standardize their products, but you can't get any to listen seriously to a scheme to standardize the raw material, while paying for it with by-products, even though standardizing raw material is 80 per cent of the story of standardizing the finished products, and Mr. Wallace said this was true of any industry of which he had knowledge. He further said he has examined prospective locations for pulp and paper mills in every coast state from Maryland to Texas and he likes the South and believes in its future in paper making, and also believes he has studied its possibilities and collected data as fully and completely as any one since he first took notice.

Mr. Wallace said that during 1919 to 1925, he undertook to interest capital in manufacturing turpentine, pine oil and rosin as by-products to paper made from Southern pine, also in producing white papers of quality, but to no avail. At an operating paper mill in 1919 and 1920 they produced magazine book of high quality from Southern woods, and certain publishers tried the paper and said it was satisfactory. Certain manufacturers of turpentine, pine oil and rosin from Southern pine woods, though seeking for advice as to making paper from the spent chips after extraction, were skeptical when he tried to persuade them that paper possibilities should dominate the operation. He said their story of "Pine Waste" has so far been wasted, but predicted that white papers of a high grade will be made from Southern woods and that by-products will pay for the wood delivered into the digester and these chips will not only be the best chips ever used for chemical pulp, but will be the only uniform or standardized wood material the industry has ever had. He believes that then, and only then, will chemical pulp be uniform in character and technical control, a fact.

Walter L. Glass with Shartle Bros.

Shartle Brothers Machine Co. Division of The Black-Clawson Co., Middletown, Ohio, has announced that a new department to be inaugurated by that company will be in charge of Walter L. Glass who became connected with the organization on October 1.

Mr. Glass is a graduate of the New York State College of Forestry. For a number of years he was associated with the Goodrich Company, the Abitibi Company and more recently with the Tolhurst Machine Company. He will be located at the home office in Middletown.

Harry S. Sleicher, formerly vice-president of the North American Refractories Company, has now become associated with the General Refractories Co., Philadelphia, in a sales capacity, with headquarters in the New York office.

❖ MICHIGAN ❖

Felix Pagenstecher to Leave Bryant

Announcement is made that Felix Pagenstecher, president and general manager of the Bryant Paper Co., Kalamazoo, has tendered his resignation to take effect November 15.

Mr. Pagenstecher came to Kalamazoo in 1902 as secretary of the old Riverview Coated Paper Co., until 1919 when he became associated with Bryant as assistant to F. H. Milham, president of the company. Upon the death of Mr. Milham in 1921, Mr. Pagenstecher was made president and general manager.

During Mr. Pagenstecher's administration, the Bryant Paper Company's plant has been entirely remodeled. Machines have been rebuilt, obsolete equipment replaced, and old structures replaced with modern buildings. The company's reserves were not sufficient to cover these expenditures and bond issues were made to provide necessary funds. These bonds are being recalled as fast as money is available.

Mr. Pagenstecher's successor has not been announced.

T.A.P.P.I. Committees Appointed by Kalamazoo Section

The regular October meeting of the Kalamazoo section of the Technical Association was held in the offices of the Allied Paper Mills in Kalamazoo on Wednesday evening, the 14th.

A paper prepared by F. C. Peterson, of Syracuse, N. Y., to be read at the Fall meeting of Tappi recently held in Kalamazoo, was not presented at that meeting due to the absency of Mr. Peterson. An effort was made to have the paper at Kalamazoo in time for the Saturday session, but it arrived too late.

The subject of Mr. Peterson's paper, read by Mr. Kent Kidder, at this meeting, was "A Comparison Between Flint Pebbles and Porcelain Balls as a Means of Hydrating in the Pebble Mill Test." The general subject of hydration was discussed quite thoroughly.

Following this, a special committee which had been appointed for the purpose of working out a committee plan of operation for the coming year, made their report. Mr. Bradford, chairman, reported that the Tappi plan of committees would be followed quite closely, and it was suggested that each committee would be called on for a progress report at each meeting and would be expected to present a formal paper at sometime during the coming year. The following chairmen of the separate committees were then appointed: Fibrous Raw Materials—C. C. Schneider; Non-Fibrous Raw Materials—A. C. Dreshfield; Stuff Preparation—Max Bardeen; Finishing, Processing and Converting—W. K. Kidder; Pulp Testing—H. C. Bradford; Abstracts & Bibliography—H. R. Miller; Paper Testing—E. F. Whittington.

A big social affair is planned for the near future and a committee consisting of Frank Libby and Al Perlick was appointed to complete the necessary arrangements.

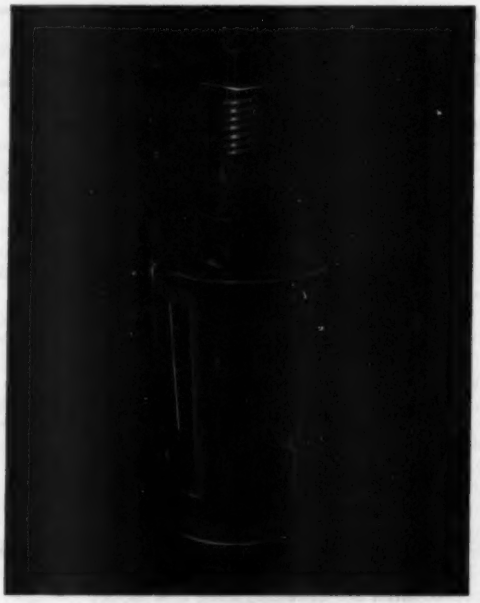
Chief Engineers Hear Talk on Safety

Walter A. Buck, who is connected with the Grand Rapids office of the Standard Oil Company (Indiana), was the guest speaker at the regular November meeting of the Chief Engineers Club, Kalamazoo, held at the Columbia hotel the evening of November 4.

Mr. Buck's subject was "Safety on the Highways." He prefaced his remarks by making a comparison of casualties suffered by the United States in the World War, in which fewer lives were lost than deaths resulting from automobile accidents in this country in 1931. Fatal accidents in the home are nearly half the number caused by automobiles.

The speaker pointed to the reduction in the number of industrial accidents which he felt was considered largely as a matter of dollars and cents to the manufacturer, and that something must be done to make the accident reduction

PAPER MILLS are turning to NORDSTROM VALVES



6" Nordstrom Valves used in an Ohio Tissue mill

THE PERFECT APPLICATION OF A PRINCIPLE

"SEALDPORT" LUBRICATION

—a patented feature

Seals the valve against leaks and permits easy turning

On blow lines, evaporators, in the diffuser room, recovery room and mixing room, Nordstrom Valves are found desirable. These valves are made in various materials including semi-steel, "Merco" bronze and "Mercoloy" for handling different varieties of liquors, effectively resisting corrosion. Sizes range from ½" to 24".

MERCO NORDSTROM VALVE COMPANY

SUBSIDIARY OF THE MERRILL COMPANY . . ENGINEERS

Boston - 250 Stuart St.
Buffalo - 1, W. Genesee St.
Charleston - W. Virginia
Chicago - 176 W. Adams St.
Dallas - Magnolia Bldg.
Detroit - 3042 West Grand Blvd.
El Paso - 111 So. Virginia St.
Houston - Petroleum Bldg.
Los Angeles - 1709 West 8th St.
New Orleans - Masonic Bldg.
New York - 11 W. 42nd St.
Pittsburgh - Clark Bldg.
St. Louis - 217 N. Eleventh St.
San Francisco - 343 Sansome St.

Agencies:

Denver - Republic Supply Company, 332 Continental Oil Bldg.
Honolulu - W. A. Ramsay Co., Ltd., Fort & Queen Streets
Philadelphia - Brown, Wilcox & Company, 1600 Arch St.
Saginaw - Arthur C. Beckert, 112 Durand St.
Salt Lake City - National Equipment Co., 101 West 2nd South St.
Tulsa - R. V. Emery & Company, 216 E. Brady Street

Factory - Oakland, Calif.

Canada - Peacock Bros., Ltd., Montreal, Toronto, Winnipeg, Vancouver. (Also Sydney, N.S.)
England - Audley Engineering Co., Ltd., Newport, Shropshire.
Buenos Aires, Argentina, - General Electric, Soc. Anon., Victoria 618 Esq. Peru.

problem a dollar and cents proposition to the public in order to show a decrease in automobile and domestic accidents.

The three predominating causes of highway accidents were said to be (1) insisting on the right of way, 31 per cent; (2) excessive speed, 25 per cent; (3) driving on the wrong side of the street, 16 per cent. Another interesting point brought out by the speaker was the fact that pleasure driving probably results in the larger number of accidents since a greater majority of all accidents occur on week ends or holidays.

Following Mr. Buck's talk the club went into business session and discussed and adopted a new set of by-laws. Nominations were made for president, vice-president, secretary-treasurer.

The Chief Engineers Club was organized in 1927 with a dozen members and the objects being to give the plant engineers an opportunity to come in closer contact with each other and also to have the opportunity to get first hand information on the new developments in the power and engineering fields.

The club has developed until it now has a roster of better than 40 engineers covering all fields and taking in persons from rather distant cities. The meetings have been very interesting and instructive with the best speakers available at all times. Meetings are usually planned three to four months in advance.

At the October meeting it was realized that the club had outgrown its original boundaries and a committee consisting of Earl Norman, Art Adams and Chauncey Davis with Ed Rutz sitting in ex-officio, was appointed to draw up a new set of by-laws which were adopted at this meeting.

Election will be held at the December 2nd meeting.

The Bonz Manufacturing Co., Masonville, Mich., a manufacturer of paper roll plugs, suffered a $50,000 loss in fire from a dust explosion recently. This occurred shortly after the mill resumed operations after a shutdown. Two million feet of logs and stock in a shed were saved.

The Kalamazoo Vegetable Parchment Company has recently completed the installation of a new two stage bleaching system which will supplant the old system which was single stage and required high temperatures for operation. With the new system there will be no heat used and this, of course, will mean a material saving to the company thereby making for reduced operating costs. Bleaching operations at the Parchment company are under the supervision of Frank Libby, chemical engineer.

Supers Elect Officers

After a summer vacation, the Michigan Division of the Superintendents association held a very interesting and spirited meeting at the Columbia hotel the evening of October 15.

Following dinner the Supers went into business session and elected the following officers: President, W. A. Crawford, Sutherland Paper Co.; 1st vice-pres.—John Weimer, Lee Paper Co.; 2nd vice-pres.—Jim Wise, Kalamazoo Paper Co.; Sec'y-Treas.—George H. Pountain.

After the presidential and vice-presidential speeches were over, everyone settled down to hear an interesting talk by Congressman Joseph L. Hooper of Battle Creek. Mr. Hooper spoke on economic conditions and was far from pessimistic. The matter of business depressions is largely attributable to the state of mind of the mass of individuals. If we think panic, we are sure to have one, and if we will think good times, and practice the idea, we can ward off depression, or live down the one we are already in.

Dan J. Albertson

Dan J. Albertson, for many years a successful hydraulic and construction engineer in Kalamazoo, died in Seattle, Wash. early in October. Mr. Albertson was 66 at the time of his death and the remains were taken to Kalamazoo for burial. Mr. Albertson was born in Kalamazoo County and educated there. After completing his college courses he settled in his home town and planned the construction of many of the paper mills now operating in that city. His work took him to Canada also and for many years he maintained offices in both Toronto and Kalamazoo.

❖ WISCONSIN ❖

Plan to Control Paper Mill Production

Direct control by the State of production and employment in paper mills of Wisconsin is virtually the substance of a plan in the making as an emergency measure to help alleviate conditions until business improves. Manufacturers are contemplating a contract with the governor and his advisory council by which they agree to limit production until surplus stocks are moved and with a view to preventing an oversupply in the future.

The plan will be modeled after that of the lumber industry, which is under contract with Gov. Philip F. LaFollette to keep production at 28 per cent of the average for 1927, 1928 and 1929 until the demand is stepped up. If the system works to inflate prices because of a shortage, the governor can rescind the contract.

Hours of employment will be manipulated under another plant to which the mills have subscribed, so the work will be divided up among a greater number of men. This plan is general with all principal industries of the state and it is believed will take care of all idle men who cannot be supplied with work on a huge program of public construction now in the making.

F. J. Sensenbrenner, president of Kimberly-Clark Corporation, Neenah, Wis., is directing these negotiations. He is a member of the governor's advisory council, and presided at the conferences of manufacturers at which these arrangements were considered. The final setup is to be announced soon.

Fall Meeting Northwest Supers

Harold A. Skinner, of the Marathon Paper Mills Co., Rothschild, was elected chairman of the Northwest division of the American Pulp and Paper Mill Superintendents association at the fall convention Oct. 2 and 3 at Wisconsin Rapids. Frank Timmerman, of the Northern Paper Mills, Green Bay, is vice-chairman, and the secretary-treasurer is Wallace Shymanski, Rothschild.

Approximately 150 superintendents attended. They inspected the mills of the Consolidated Water Power & Paper Co. and the Nekoosa-Edwards Paper Co. and held conferences on problems. Papers given were: "Slime Control," C. M. Baker, of the American Pulp and Paper association; "The New Institute of Paper Chemistry at Lawrence College," Dr. Otto Kress, technical director of the institute; "Stock Temperature Control," Lyman Beeman, of the Consolidated company; "Control of Metals in Pulp and Paper Mills," Martin Hokanson, Duluth, Minn.

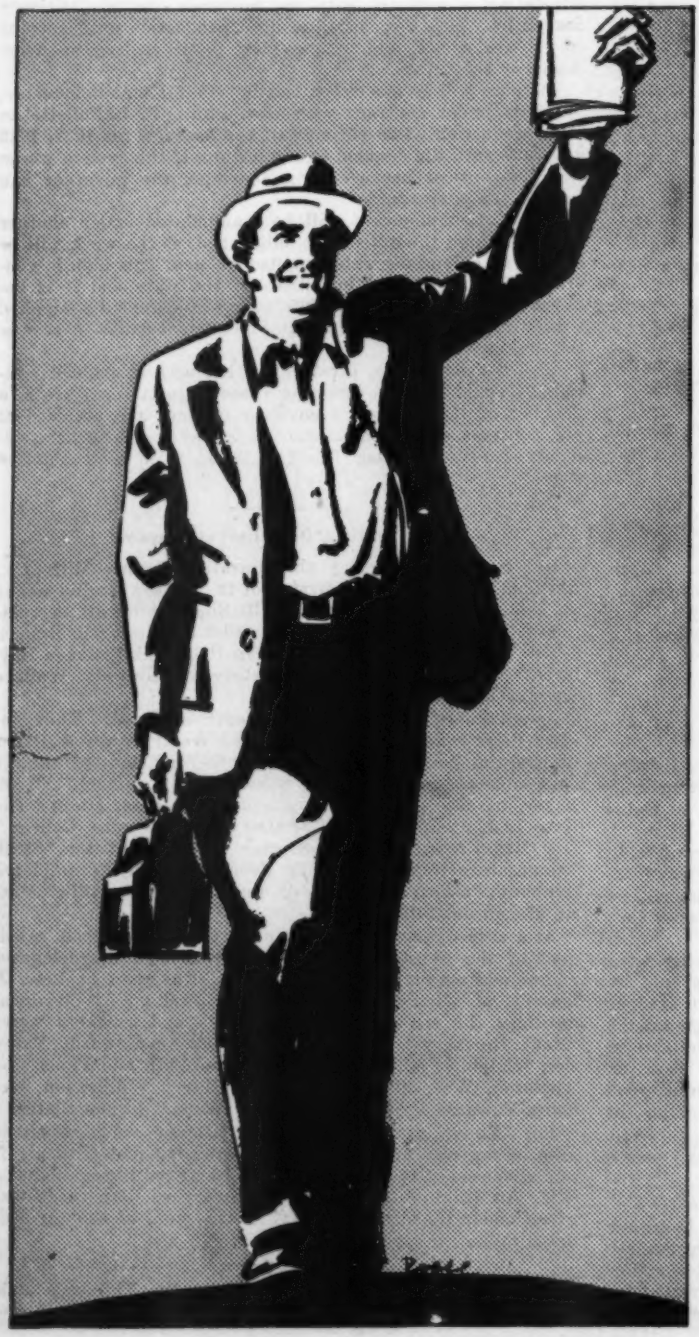
At a stag dinner the first evening, George W. Mead, president of the Consolidated company, welcomed the delegates and an address on "Printer's Problems" was given by Peter J. Massey, of the Seaman Paper Co., Chicago. At divisional meetings the second day, the subjects and speakers were: "Heat Recovery," E. P. Gleason, Nekoosa-Edwards Paper Co.; "Sulphite," C. K. Boyer, Interlake Pulp and Paper Co., Appleton, Wis.; "Paper Machines," Harry Williamson, Nekoosa-Edwards Paper Co.; "Ground Wood," Joseph Slater.

Roy Kelly, president of the national superintendents association, was honored at the closing banquet with a gift of a silver set of 180 pieces, presented by Fred Boyce, Wausau, Wis. An original skit, "The Discovery of Papyrus," was given under the direction of C. E. Jackson, of the Consolidated mills.

Improvements are going forward at the Thilmany Pulp & Paper Co., Kaukauna. Eighty men are remodeling a former

Keep his head up

and we'll all come through!



You recognize this man. He lives in your own town, not far from you . . .

Though faced with unemployment, he is combating adversity with courage. He has retreated step by step, but fighting. He has spread his slender resources as far as they will go.

This winter he and his family will need your help.

There are many other heads of families much like him in the United States. This winter all of them will need the help of their more fortunate neighbors.

This is an emergency. It is temporary. But it exists. It must be met with the hopefulness and resource typical of American conduct in emergencies.

Be ready! Right now in every city, town and village, funds are being gathered for local needs—through the established welfare and relief agencies, the Community Chest, or special Emergency Unemployment Committees . . .

The usual few dollars which we regularly give will this year not be enough. Those of us whose earnings have not been cut off can and must double, triple, quadruple our contributions.

By doing so we shall be doing the best possible service to ourselves. All that America needs right now is courage. We have the resources. We have the man power. We have the opportunity for world leadership.

Let's set an example to all the world. Let's lay the foundation for better days that are sure to come.

The President's Organization on Unemployment Relief

Walter S. Gifford

WALTER S. GIFFORD, DIRECTOR
Committee on Mobilization of Relief Resources

Owen D. Young

OWEN D. YOUNG, CHAIRMAN

The President's Organization on Unemployment Relief is non-political and non-sectarian. Its purpose is to aid local welfare and relief agencies everywhere to provide for local needs. All facilities for the nation-wide program, including this advertisement, have been furnished to the Committee without cost.

turbine room at the sulphate mill preparatory to removing two machines from the branch tissue mill at Appleton. Construction of a large warehouse also is under way. Later the crew will be enlarged to 150 men to enlarge the mill further to accommodate a new paper machine recently purchased. The company will then utilize practically its entire pulp output in its own machines. The Permanent Construction Co. has the building contract.

Climbing to a record of two years of operation without a lost-time accident, the Interlake Pulp and Paper Co., division of the Consolidated Water Power & Paper Co. at Appleton, now has more than 19 months to its credit, having had no accident since Feb. 16, 1930. The four mills of the Consolidated, employing 1,066 men, had a perfect record for September and the Stevens Point mill has more than 13 months to its credit from Aug. 3, 1930.

Arthur L. Herwig, formerly production manager of the Wood Fibre Plug Co., Menasha, is organizing a company to manufacture plugs for paper rolls at Appleton. Buildings of the Advance Car Mover Co. will be remodeled for the purpose, and a maximum of 20 men will be employed.

Rebuilding of the DePere Paper Manufacturing company's mill at DePere, is contemplated in the near future. A crew of men is cleaning up the debris of a fire which destroyed the mill several months ago. Part of the machinery was salvaged and the boiler house, only partially damaged, will not require replacement. The engines were found to be in operating condition. The rebuilding is somewhat dependent on financial support which the proprietors, Morris and Herman Miller, are seeking. They have also appealed to the city council to waive taxes on all but the real estate for the next five years. About $50,000 will be spent on the rebuilding, and 40 or 50 men will be employed with a pay-roll of about $5,000 a month.

The new bleach plant of the Interlake Pulp & Paper Co., Appleton, a branch mill of the Consolidated Water Power & Paper Co., Wisconsin Rapids, is taking shape rapidly. The building will be 60 by 60 feet in size and 60 feet high, using concrete and brick. There will be three low density bleachers, each 19 feet in diameter and 29 feet high; also four high density bleachers 13 feet in diameter and 22 feet high. They are of re-enforced concrete, with white tile lining. The building will also contain three stock tanks with paddle agitators. An old digester plant was removed. Architecture of the building will be similar to that of the new digester plant, with its gothic design and imposing exterior.

"A shorter working week and shorter working hours per day must come," said J. M. Conway, president of the Hobert Paper & Fibre Co., Green Bay, Wis., in a recent address before a group of manufacturers. "Our capitalistic system has worked perfectly up to this time, but during the past ten years, when it has made its most rapid strides in other lines, this system has done nothing to avoid such a thing as is now upon us. For the past ten years employers of labor have done nothing towards assuring employment to the country's laborers, although permanent employment of labor for at least 48 weeks each year is essential to prosperity." Mr. Conway, in a later meeting before 900 labor union members, expressed himself in favor of unemployment insurance.

Mobilize to Fight Forest Fires

Thousands of men will be available to fight forest fires under a mobilization plan set up by Adjt. Gen. Ralph M. Immell, acting director of the Wisconsin Conservation Commission. Seventeen hundred county highway workers will serve on call, and 40 posts of The American Legion in Wisconsin have organized emergency units subject to call.

A new step in reforestation is the establishment of a prison camp in Douglas county to which 50 inmates of the state penitentiary will be transferred. These men will plant 500,000 trees on cutover lands next spring, and the program will be developed to 5,000,000 trees a year. Government crews, aided by fall rains, are planting 1,100 acres in the Moquah, Flambeau and Oneida national forests.

The Citizens National bank, Appleton, has been merged with the First National of that city, giving the latter assets of $9,500,000. The First National is the paper mill bank of the Fox River Valley, and F. J. Sensenbrenner, president of the Kimberly-Clark Corporation, is vice-president.

One hundred twenty-five employees of the Consolidated Water Power & Paper Co. are enrolled in classes conducted by the vocational schools in pulp and papermaking. The employees also are participating in a safety school with prominent speakers. The first of these was Frederick M. Snyder, of New York whose topic was, "Keeping Ahead of the Headlines."

The Marinette and Menominee Paper Co., Marinette, lost out on an appeal to the state supreme court in suits previously decided against it demanding damages to lands of Mr. and Mrs. Theodore Manusmby reason of backwater from the company's power dam. The decision opens the way for a number of suits of the same kind.

Nekoosa-Edwards Paper Co., Nekoosa, has elected L. E. Smith, mill manager, to the board of directors to fill the vacancy caused by the death of F. J. Wood.

Freight rate reductions on pulp wood have been requested by the Badger Paper Mills, Inc., Peshtigo, in an application filed with the Interstate Commerce Commission. The company ships about 1,500 cars a year from Northern Michigan and contends the rates are prohibitive.

Griswolt VanDyke, of Joseph T. Ryerson & Son, Inc., Chicago, gave a paper on "Chrome and Chrome Nickel Alloys" at the October meeting of the Lake States section of the Technical Association of the Pulp and Paper Industry at Appleton. Nearly 100 members were present.

Wm. J. Peacock Married

Wm. J. Peacock, personnel director of the Northern Paper Mills, Green Bay, was married on October 10 to Miss Josie M. Johnson, of Green Bay. "Bill" is a well-known and popular figure in paper mill circles. His bride is an old friend of the Peacock family, and has been associated with the McCartney National Bank of Green Bay.

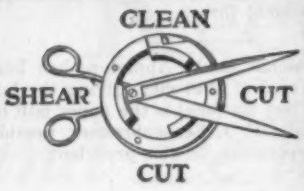
Mr. and Mrs. Peacock received congratulations from a host of friends in the industry while attending the National Safety Congress at Chicago on their honeymoon.

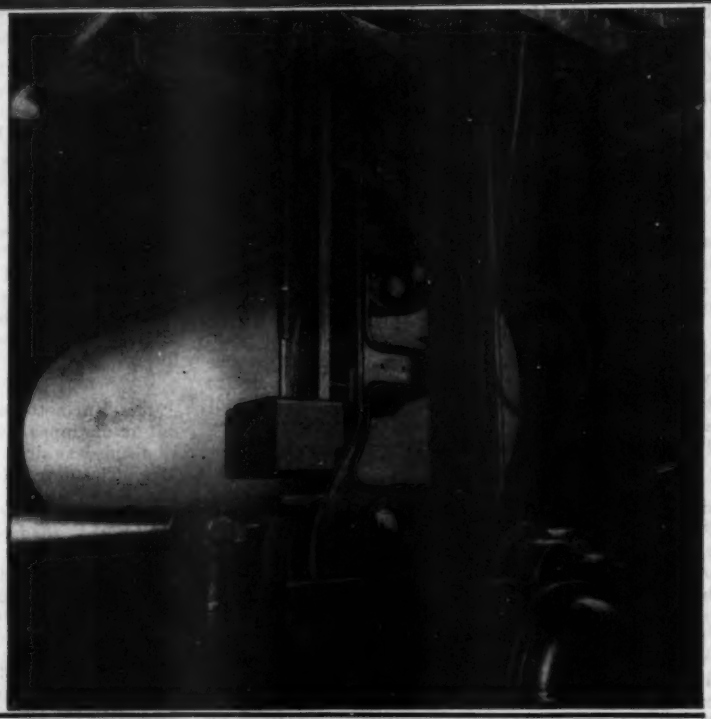
Kimberly-Clark Corporation, Neenah, emerged from the first nine months of this year with a surplus available for common stock of $1,130,041, after allowing for all charges including federal taxes and preferred dividends. This gives a net of $2.26 per share on common stock outstanding and indicates that the year will end with an excess of the dividend requirements of $2.50 per share. The ratio of current assets to liabilities is 4.4 to 1, with $9,000,000 of the former and slightly over $2,000,000 of the latter.

Bennett Carlson, the inventor of a collapsible shaft used in many paper mills, died at his home in Rhinelander early in October.

Henry VanderHyden, who had been employed with the Gilbert Paper Co., Menasha, Wis. for 40 consecutive years, was recently given the customary reward, a gold watch.

a clean cut ~ a sure cut ~ a shear cut ~





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Slitters & Rewinders

OPERATING records, collected and analyzed by impartial surveyors, show conclusively that Langston Slitters and Rewinders are highly profitable. And why not? These machines are the product of over thirty years' experience. They contain elements of design, workmanship and materials that are time-tested. High speeds, of course—yet at no sacrifice of quality rolls. The Shear-Cut principle continues to produce those firm, square-edged, *dust-free* rolls such as no other method can match. Manufacturers and converters realize the necessity of reducing production, maintenance and labor costs; at the same time improving the quality of their product. Such firms will find it to their interest to learn what fact records prove Langston's have done on these points.

SAMUEL M. LANGSTON COMPANY
Camden, New Jersey

~ a shear cut ~ a sure cut ~ a clean cut ~ a shear cut ~ a sure cut ~ a clean cut ~ a shear cut ~

~ a shear cut ~ a sure cut ~ a clean cut ~ a shear cut ~ a sure cut ~ a clean cut ~ a shear cut ~

Canadian News

Canadian Newsprint Consumption Increasing

It would appear that consumption of newsprint in Canada is showing marked and steady gains. Last year the total production of Canadian newsprint mills amounted to 2,504,000 tons, of which 2,331,000 tons were exported leaving a balance of 173,000 tons, representing the apparent domestic consumption of newsprint. In 1919, the apparent consumption, estimated on the same basis, was 95,000 tons.

During September the Canadian newsprint mills operated at 57.7 per cent of capacity and produced 178,412 tons of paper. The corresponding figures for August were 51.3 per cent and 165,124 tons. The showing is quite gratifying, as it indicates more than a seasonal increase; but the figures are still far from those of September 1930, when the mills, operating at 66.8 per cent of capacity, turned out 195,490 tons. So far this year (up to September 30) Canadian mills have produced 231,906 tons less than during the same period last year, which is a decrease of 12 per cent.

In its thirteenth annual review of the pulp and paper conditions in Canada the **Financial Post** says that more than 33,000 Canadians are directly dependent on the pulp and paper industry for their livelihood. The latest returns of the Federal government show that 33,584 men and women were given employment in the industry, and the amount paid out in salaries and wages totalled $50,214,000. Quebec has the largest number of pulp and paper workers with 17,244 whose salaries totalled $25,933,000 in 1929. Ontario follows with 11,023 workers, who received $16,466,000; British Columbia with 3,077 employees, receiving $5,068,000; New Brunswick and Manitoba combined with 1,917 workers, to whom $2,436,000 were paid, and Nova Scotia closed the list with 323 employees paid $308,000.

There is uncertainty regarding the outlook for the near future. The situation is still far from pleasing, but it is admitted that considerable progress has been made toward putting the industry on its feet. Reorganizations have taken place and others are pending. From the corporate point of view further consolidation or mergers are a possibility, but unlikely. What changes may come over the near year are expected to be along the lines of cutting down capitalization to more closely approximate the revised values of the assets held and earning power of the properties.

The recent fall in the value of the Canadian dollar does not seem to be an unmixed evil, and Canadian newsprint mills will benefit by it to a considerable extent. As 90 per cent, or there abouts, of the Canadian newsprint output is exported to the United States and is paid for in United States funds, with the Canadian dollar at a discount of 10 per cent, Canadian mills are at the present time securing increased returns at the rate of approximately $15,000,000 in Canadian funds. It is true that this is offset to some extent by the purchase of supplies in the United States; but the chief commodity imported by newsprint mills is sulphur, and the value of the sulphur imported in 1930 was only about $4,250,000.

The fine paper producers also stand to benefit by the situation. Fine paper dealers in Eastern Canada have, almost without exception, added a surcharge of 15 per cent to their list prices on paper of American manufacture. This has resulted, in many instances, in a noticeable change over from well established American lines to Canadian ones. As yet, no appreciable difference has been noticed by Canadian paper manufacturers, but it is felt that as dealers' stocks are depleted, some gain in business will be noted. It is possible that certain paper products now being imported will be manufactured in Canada in the plants of international organizations, due to this necessary surcharge.

The Forest Products Laboratories of Canada, in co-operation with the Technical and Woodlands Sections of the Canadian Pulp and Paper Association, will conduct a survey of pulpwood losses in block piles and in water storage at some of the representative pulp and paper mills in Eastern Canada, to find out the approximate amount and nature of wood decay as related to the length of time in storage, storage conditions, kinds of woods, etc. Samples will be taken for pathological studies as well as for small cooking tests. A suggestion to organize field experiments on the deterioration of sound pulpwood in experimental small piles under various conditions has been accepted. The work will require several years for its completion, and will be conducted by the Dominion Bureau of Plant Pathology in co-operation with one of the member companies of the Canadian Pulp and Paper Association.

Canada May Lose New Zealand Newsprint Market

The New Zealand Newspaper Proprietor's Association last month passed a resolution recommending its members to place at least two-thirds of their newsprint orders for the coming twelve months with English manufacturers. This step, which means a loss of approximately $1,000,000 worth of business for Canadian newsprint manufacturers who have hitherto supplied the bulk of New Zealand's requirements, was taken in view of the fact that New Zealand's prosperity depends on the industrial prosperity of Britain, and in recognition of Britain's generosity in suspending the funded war debts payment, in the words of the resolution.

Although no mention was made officially of the present break in the Canadian-New Zealand trade relations, the action was expected following the imposition of Candaian tariff regulations which deprived New Zealand butter producers of a large share of the Canadian market.

Productive Capacity Too High

Machine installations in Canadian, American and Newfoundland newsprint mills are still far in excess of the actual needs of the publishers. While the official operating ratio at present is below 60 per cent of capacity, this figure is apt to be somewhat misleading for the reason that a number of machines are obsolete and cannot be operated profitably on present newsprint prices. Accordingly their usefulness is nil under present conditions. From a detailed analysis of machines installation of the different operators, it is learned that the total North American newsprint machine capacity is 19,002 tons daily. On the basis of current production, there is an apparent surplus capacity of 3,463 tons, or the equivalent of about 60 per cent of the present United States capacity.

Newfoundland International Extending Holdings

A pulpwood area in Newfoundland, operated for export purposes by the late Harry J. Crowe, of Toronto, is likely to pass into the possession of International Paper, if indeed it has not already done so. Under an agreement with the Newfoundland government, Mr. Crowe operated a drum-barking plant at Hampden, on White Bay, for the preparation of rossed pulpwood for export. The agreement was made in 1928 and was to remain in force until 1948, provided a sulphite mill was erected by August 1932. Another condition was that not less than 25,000 cords of pulpwood per year were to be exported until 1938, failing which the agreement would lapse. Mr. Crowe died sometime ago. This year only 13,000 cords were cut, none exported, and no steps have been taken tawards the construction of a sulphite mill. International Paper is taking over the wood, and is expected to take over the holding, as the agreement gave Mr. Crowe or his assignees the power to convey it to a purchaser.

It is announced that officials and employees of International Power and Paper Co. of Newfoundland have had their sal-

Air Conditioning For Container Plants

RELIEF FROM MANY PRODUCTION TROUBLES DUE TO SUDDEN CHANGES IN THE RELATIVE HUMIDITY!

Carton and folding box plants are profiting by the universal industrial application of air conditioning to attain production that is more profitable. Like other industries, they recognize the importance of utilizing the method of air conditioning specifically adaptable to their own particular problems.

The four major problems resulting from variations in atmospheric conditions have been (1) Lack of good folding properties (2) Difficulty in obtaining register (3) Curling (4) Static Electricity. By means of a correctly designed conditioning system, the more progressive plants in the industry have already completely eliminated these troubles with their accompanying expense for damage to quality of product, waste of time and materials.

Under present conditions, no container or carton plant can afford to ignore the economies obtainable by proper conditioning. Ross engineers, with their long experience in paper mill problems are best qualified to design the most efficient system for plants in this field, —a system that positively controls both temperature and humidity. This inexpensive system is now operating in prominent plants throughout the industry. Its performance has been proved.

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NEW BIRKS BLDG., MONTREAL

ROSS SYSTEMS
HEATING—VENTILATING—DRYING

aries reduced by 10 per cent. This is stated to be in line with similar reductions effected throughout all subsidiaries of International Paper as well as in the parent oganization itself.

According to a report on the manufacture of composition roofing paper, shingles, saturated felts and sheathings and of insulating and construction boards in Canada during 1930, issued by the Forest Products Branch of the Dominion Bureau of Statistics, the gross value of these products was $9,142,379.

As a result of the increased tariff on United States magazines entering this country, 20 of such magazines will now have editions printed in Canada. This will bring a very valuable accession of business to Canadian printing establishments and will result in requisitions for Canadian newsprint, in some cases, and, in other cases, for Canadian-made coated paper, book paper, etc. The great majority of these magazines were formerly sold in Canada at five cents per copy more than in the United States, and, under the new tariff regulations, their price would have been considerably more than this. But under arrangements now made, the majority, at any rate, will be sold in this country at the same price as in the United States, with the added advantage of giving increased work to Canadian printing houses and paper mills.

It is of interest to note that Rex Hovey, of Oxford Paper Co., who has been selected as chairman of the newly formed advisory committee to the U. S. Forest Products Laboratory at Madison, is a native-born Canadian, of North Hatley, Que., who studied at McGill University, Montreal, where he obtained the degree of B. Sc. in chemical engineering.

At a meeting of the executive council of the Canadian Pulp and Paper Association, held in Montral last month, it was decided that the annual meeting will be held on January 29, 1932, at the Pulp and Paper Research Institute, as last year.

❖ QUEBEC ❖

Orville F. Bryant

The sudden death on October 27 of Orville Frank Bryant, secretary of the Technical Section of the Canadian Pulp and Paper Association, came as a great shock and severe loss to the industry in this country. Mr. Bryant, who was 44 years of age, was at the work which had occupied him all his life right up until the end, as he died in his office at 11:15 o'clock in the morning. His loss will be doubly felt on account of his high competence in his chosen field of endeavor and for the sterling qualities which endeared him to all who were privileged to know him.

Born in Meredith, N. H., in 1887, Mr. Bryant was educated at the University of New Hampshire. As a chemical engineer he became early associated with the paper industry, and became one of the most widely known and popular of those connected with the various branches of the industry. The Pulp and Paper Research Institute was one organization with which he was closely associated and he did much to further its ends. His interest in research work relating to the industry in Canada was recognized, as was his ability in that field.

His first association with papermaking was as chemical engineer with the Nekoosa-Edwards Paper Co., where he remained for three years, and then became director of the pulp and paper division of the Forest Products Laboratories of Canada in Montreal, which position he held for another three years. After leaving the Laboratories he was technical adviser to Bennett, Ltd., Chambly Canton, Que., for sometime, and then went as chemical engineer to the Laurentide Co. at Grand'Mère, where he remained seven years. From there Mr. Bryant went to Saint John, N. B., as manager of the Nashwaak Pulp and Paper Co., where he remained for two and a half years. While there he served on the administrative committee, with representatives of the federal government and of McGill University, which brought about the establishment of the Pulp and Paper Research Institute, and he was largely instrumental in its development. When Nashwaak mill was closed in 1930, he accepted the position of secretary of the Technical Section of the Canadian Pulp and Paper Association, of which he was a past chairman.

Shortly after his appointment to his last position, Mr. Bryant was seriously ill for several months; but he had apparently recovered completely, and was given a very warm welcome at the summer meeting of the Technical Section last June. His very sudden and unexpected death has cast a shadow of gloom over his extensive circle of friends.

Canada Power and Paper Passes Out of Existence

Formal approval was given on October 29 to the Canada Power and Paper reorganization plan, at several meetings of the security holders of the corporation and its subsidiaries, held at the offices in Montreal.

Debenture holders of Canada Power and Paper were the first to meet. Of the total of $35,466,700 of these debentures outstanding, $33,661,000 were represented in person or by proxy and the entire amount was voted in favor of the plan. Preferred and common shareholders of Port Alfred Pulp and Paper Corp., at separate meetings, recorded their approval of the plan by a wide majority, the only dissenting vote coming from a holder of ten of the preferred shares in Vancouver. Three meetings were necessary to record the legal approval of St. Maurice Valley Corp. shareholders—one of the preference and common shareholders, one of the preference shareholders only, and a third meeting of a general nature.

The approval given at all these meetings constitutes the legal sanction for the exchange of securities into those of the new company, the Consolidated Paper Corp. Bondholders of St. Maurice Valley Corp., Port Alfred and Wayagamack and preference and common shareholders of Belgo will meet on November 6; and on the next day meetings of Belgo and Anticosti bondholders and of Anticosti preferred and common shareholders will complete the series of meetings. Canada Power and Paper shareholders gave their approval to the plan on October 19. Although only a small group of shareholders attended the meeting, there were presented proxies for a total of 1,293,925 shares, and these were voted unanimously in favor of the resolutions submitted.

As the final date for deposit of securities has now passed, holders who have remained aloof will have to make special arrangements or await the complete reorganization of the new company. The comparatively small percentage of undeposited securities constitute in effect only a delaying factor. General commercial situation and special conditions in the industry itself make it desirable that the new company commence operating at the earliest possible moment. The vital matters of contracts and operating management await the actual transfer of the properties and the vesting of complete control in the new company.

L. J. Belnap, who has been selected to head the Consolidated Paper Corp., was recently elected chairman of the board of directors of Worthington Pump and Machinery Corp. Mr. Belnap relinquished the presidency of Worthington to accept that of Consolidated Paper, and his successor as president of Worthington will be Harry C. Beaver.

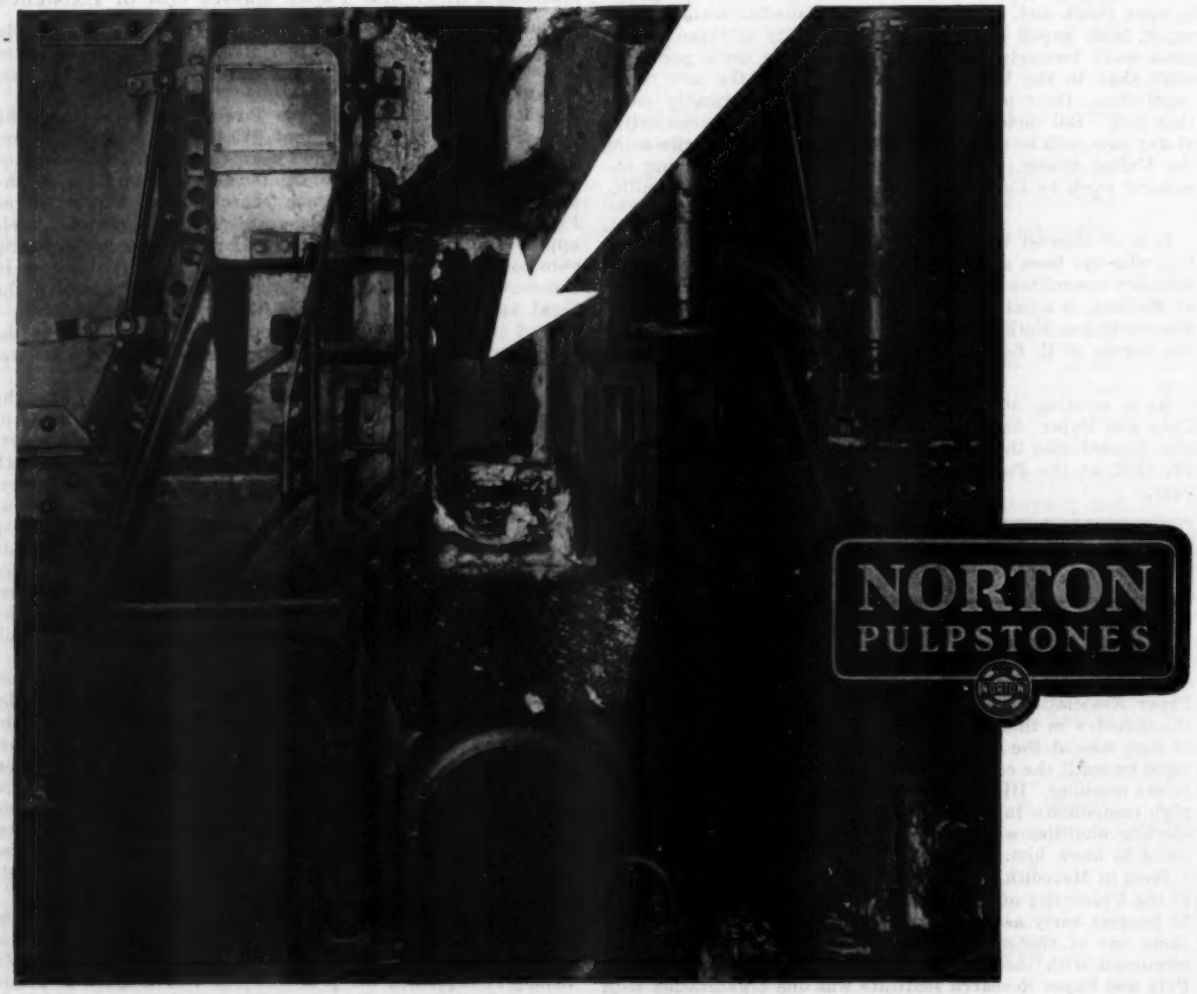
Retirement of A. A. Hodgson

On September 30, A. A. Hodgson retired from active business and sold out his interests in McFarlane, Son and Hodgson, Ltd. The late David McFarlane, A. A. Hodgson and C. H. McFarlane formed a partnership in 1891 under the name of David McFarlane and Co.; later this name was changed to McFarlane, Son and Hodgson, and in 1907 the firm became a joint stock company.

C. H. McFarlane continues as president and treasurer, W. D. Nelson becomes vice-president, E. T. Reynolds becomes managing director and G. H. Davidson continues as secretary.

Norton Pulpstone and modern pulp wood-grinding.

Less waste. Uniform pulp. Less burring—longer life. Delivered true—ready for service.



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NORTON PRODUCTS—Grinding Machines; Lapping Machines • Grinding Wheels; Abrasives for Polishing; India Oilstones, Pulpstones • Laboratory Ware, Refractories; Porous Plates • Non-slip Tiles and Aggregates

W. D. Nelson, who joins the organization, comes of an old Montreal mercantile family, his grandfather being the late Horatio A. Nelson, the founder of the former firm of H. A. Nelson and Sons.

E. T. Reynolds has been associated with McFarlane, Son and Hodgson for 20 years, latterly as director and sales manager. G. H. Davidson, Mr. McFarlane's son-in-law, joined the organization about a year ago. On his retirement A. A. Hodgson was presented by the employees with a complimentary address.

Lord Rothermere, head of the Daily Mail newspaper interests in Great Britain, recently concluded a brief visit to Montreal and sailed for home. He came here primarily in connection with the affairs of the Anglo-Canadian Paper Co., of which he is also the head. This company, which was formerly included in the Canada Power and Paper Corp., has reverted to its former independent status, and it was to straighten out matters in connection with the change that Lord Rothemere came here.

Maclaren Completes Extensive Developments

Progress has been made by the Maclaren Power and Paper Co. in its hydroelectric and pulp and paper developments at Buckingham. Up until two years ago, the Maclaren interests were primarily engaged in the production of lumber and the manufacture of groundwood. It was then decided to undertake the further exploitation of the company's resources and to that end a plan was drawn up involving an outlay of approximately $25,000,000, covering the construction of two power plants, extension of another, and the building of a 250-ton newsprint mill.

Towards the end of last year the newsprint mill at Buckingham was brought into production. It is equipped with two 234-inch paper machines with a daily productive capacity of 125 tons each, only one of which is in operation at the present time. About $6,000,000 was spent on this unit. Production from this mill is not being sold directly to the publishers, as arrangements were entered into whereby the St. Lawrence Paper Sales Corp. undertook to market the output of the plant.

Price Bros. and Co. are seeking from the Provincial Ministry of Lands and Forests permission to erect a dam to facilitate the floating of logs at the outlet of Lake Mistigouche, in the County of Rimouski. Plans and specifications for the intended work are in the hands of the Department. Donnacona Paper Co., subsidiary of Price Bros. is also seeking approval of a dam to aid in log-floating at the outlet of Lac Ruban, in Montmorency County.

Pulp and Paper Safety Organization to Incorporate

In order to facilitate the work of the Workmen's Compensation Commission, representatives of a majority of the pulp and paper companies of the Province of Quebec are incorporating as the Quebec Pulp and Paper Safety Association. A majority of the companies operating in connection with the pulp and paper industry of this Province met on October 20 at the Pulp and Paper Research Institute, Montreal, and voted to carry out the general plan of organization recommended by the Commission and to incorporate. The committee of five which has been working extremely hard since last July on this matter, presented a draft of by-laws for the consideration of the meeting.

The matter was thoroughly discussed from every possible angle and the experience of several members in accident prevention work and organization activities, together with comments on what other organizations in this field have done, were put forward. While there was practical unanimity on the advisability of having such an organization, there was some discussion as to the manner in which the proposed association would best carry on. The details of the working arrangements, however, were left to be planned later on when the association acutally comes into existence.

ONTARIO

Abitibi Jottings

Ontario Power Service Corp., a subsidiary of Abitibi Power and Paper Co., which will complete according to schedule its $23,000,000 electrical development at Abitibi Canyon early in October 1932, may not have an immediate outlet for the whole of the 275,000 hp. which will then be available. Abitibi Power and Paper will take 175,000 hp., mainly for use in its electric steam generators at Iroquois Falls, but much anxiety had been felt recently by investment bankers who heard that negotiations had been reopened with the object of reducing the amount of power which the Ontario Hydro-Electric Power Commission will take from the new development. It is stated, however, by men in authority at Toronto, that there should be no fear that the Commission will try to recede from its agreement in any degree. Ontario Hydro has bought 85,000 hp., increasing in a few years to 100,000 hp. The price has never been made public, but it is stated to be around $13 per horsepower.

Due to tranfer of tonnage to the Sault Ste. Marie Division, production at the Iroquois Falls Division has been curtailed by 325 tons daily, necessitating the closing down of four of the seven paper machines. This condition will continue throughout the winter, at least, according to E. T. Silver, mill manager. In order to provide employment for as many men as possible, the six-hour day has been adopted in many of the departments, including the paper mill, groundwood mill and mechanical department. The sulphite mill is still on the eight-hour basis. As a result of the adoption of the six-hour shift, only 175 men have been laid off, whereas on the eight-hour basis 350 would have been affected. Fortunately, considerable highway work is being done in the district, and many of the men affected by the mill curtailing its operations are finding work.

Provincial Paper Earning Preferred Dividend

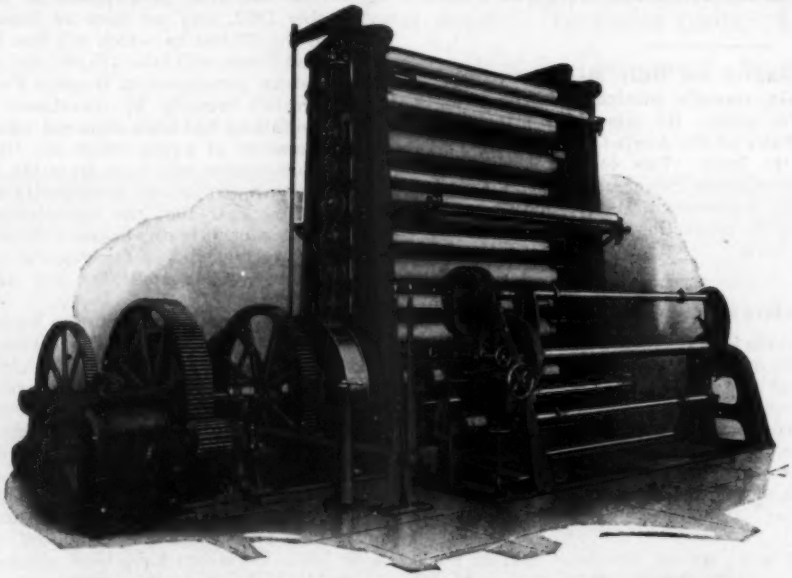
While net earnings of Provincial Paper are not going to reach the figure shown for 1930, it would appear that the preferred dividend will be earned. In view of the strong financial position of the company there seems every likelihood that the dividend will be continued if 1932 business does not fall behind that of 1931. In 1930, earnings from operations were sufficient to take care of depreciation of $250,000, bond and bank interest of $229,559, and to leave a net profit of $516,188, or more than twice the preferred dividend requirements of $245,000. In 1930 common dividends amounting to $125,000 were also paid.

Number 1 machine at the Port Arthur mill of Provincial Paper was recently shut down for a week in order to allow of the installation of a new Cameron winder and a Voith inlet. The company also installed a new Cameron winder at its Mille Roches Division.

The complimentary dinner given to George McLean by his friends in Fort Frances and International Falls is an indication of the high esteem in which he was held by the residents of these communities. For many years Mr. McLean was connected with the Backus interests at this point and he recently retired as manager of the local mills and as vice-president of the company. The large attendance at the banquet included prominent citizens of the district and the company employees, including representatives of all the trade unions.

The Workmen's Compensation Board of Ontario has added to the pulp and paper group a number of concerns such as corrugated box manufacturers, with plants located at Toronto, London and elsewhere, so that these plants now automatically come under the supervision of the Ontario Pulp and Paper Makers' Safety Association. A. P. Costigane, secretary-engineer of the Association, visited these plants last month. He

HOLYOKE



PRECISION

HOLYOKE Precision is really the result of continuous contact for 65 years with the big-and-little problems of the mill. To analyze exactly the special needs of the paper maker and to build *precisely* to his requirements,—that is the basis of HOLYOKE Service.

HOLYOKE invites you to consult with their Engineers when planning the purchase of Paper Mill or Wood Pulp Mill equipment. It pays to buy that extra percentage of experience with every dollar you spend.

Write HOLYOKE MACHINE COMPANY, HOLYOKE, MASS., Manufacturers of Super Calenders, Platers, Cotton and Paper Rolls, Washing and Beating Engines, Wood Pulp Grinders, Barkers, Chippers, Rag and Paper Dusters, Rag Cutters, Hydraulic Pumps and Presses, Hercules Water Wheels and Governors.

The HOLYOKE MACHINE COMPANY

FOUNDED 1863

reported that he found them all modern and in good shape, and that he considered that their addition to the pulp and paper group would not add to the cost of compensation of the group. It was decided at a meeting of the directors of the Association to continue the annual first aid contest at least for the present year, in spite of the fact that, by reason of the present trade conditions, the number of entries for the contest has not been as large this year as in previous years.

Foundation work is now well under way by contractors for the erection of a $125,000 warehouse and offices for the Buntin Reid Co., at 117-125 Peter St., Toronto. The building is to be three stories high and semi-basement, 80 by 160 feet. The company is one of the oldest wholesale paper firms in Toronto.

F. C. Mousley has been appointed superintendent of the mill of Canadian Paperboard Co., Toronto. Mr. Mousley has had an extensive experience in the industry and is recognized as an expert in board manufacture.

H. Breckenridge, one of the directors of Dominion Boxboards, Ltd., Toronto, has resigned the position of treasurer of that company which he had held for some years.

❖ ALBERTA ❖

Insulating Board from Muskeg Litter

Developments of a new industry in Western Canada, the manufacture of insulating board from muskeg litter, took definite form during the early part of October with the start of production of the new product "Mosstex" by the Carlson Building Co., Edmonton. According to officials of the natural resources branch of the Canadian National Railways, the company contemplates expansion to Manitoba and the recent tour of investigation of A. Anrep, member of the Geological Survey of Canada, was undertaken with this end in view.

Since the Edmonton plant was opened, 50,000 square feet of Mosstex have been produced under the process invented by V. R. Carlson, prominent building contractor. According to F. V. Siebert, superintendent of natural resources of the railway company, Mosstex compares favorably with insulating boards, manufacture of wood pulp and other fibrous materials and possesses excellent insulating and acoustic properties. The comparatively low cost of production of the board should give it an important place in the industry, and this importance will increase if waterproofing and fireproofing tests prove successful.

❖ BRITISH COLUMBIA ❖

Pulp and Paper Industry Benefiting Vancouver

According to the report of the president of the Vancouver Merchants' Exchange, the production of paper and wood pulp in British Columbia is having a favorable influence on the port of Vancouver. In his address, Mr. S. S. McKeen stated that the production of this important item of manufacture and export had increased considerably in the past few years. Newsprint manufacture commenced in 1913 with an output of 46,000 tons, which by 1930 had increased to 225,000 tons, principally exported to the United States, South America and Australia, in the order named. The production of wood pulp exceeds the local demand and a considerable quantity is exported, principally to Japan, the United Kingdom and the United States.

The present exchange situation is not expected to affect the business of British Columbia mills. In some quarters it was reported that the depreciation of the Canadian dollar would result in the placement of larger orders for newsprint to take advantage of the prevailing prices, but this is not so. United States purchasers of paper pay in United States funds and the fact that Canadian mills pay for their equipment, bond interest, and so forth, in American funds virtually offsets the difference. Meanwhile, Coast paper mills report the market situation to be rather better than anticipated and export orders have been received from countries which previously have not been placing much business in Canada.

The new barker of the British Columbia Pulp and Paper Co. at Port Alice is now in operation. Installed at a cost of about $100,000, it is said to be one of the largest barkers in the world, being capable of handling logs ten feet long with a diameter up to 22 inches. A number of difficulties, not unusual with a new installation, have been encountered, but have been successfully overcome, and the machine is in daily operation.

❖ NEW BRUNSWICK ❖

Chester W. Alden, who has been woodlands manager of the Nashwaak Pulp and Paper Co., Saint John, has been appointed manager of the transportation department of the Oxford Paper Co. He succeeds C. Frank Young, who has retired after 31 years with the company at Rumford, Me.

❖ NOVA SCOTIA ❖

International Fibre Board, Ltd., a subsidiary of International Paper Co., has become the sales agent for a building blanket manufactured by the Riverbank Manufacturing Co., New Glasgow. International Fibre Board has been given the exclusive right to sell the blanket in Canada, by the Riverbank Manufacturing Co., which is headed by John Underwood.

Mnemonics and Silicates

Silicate of soda is a chemical which finds many uses in different paper mills. On this account the monthly bulletin called Silicate P's & Q's which is published by the Philadelphia Quartz Company is always read with interest. The bulletin appears in leaflet form of regular magazine size and seldom exceeds two pages. It would be dry reading if its talented editor, James G. Vail, did not brighten the opening paragraphs with some whimsical play of fancy having little or nothing to do with what follows. In the latest issue, that of the Tenth Month (remember there are Quakers in Philadelphia), Mr. Vail uses a most interesting decoy paragraph in which he discusses certain mnemonical characteristics related to the way in which we connect ideas. He reminds us that sometimes a picture and a word get inseparably associated for no apparent reason. In his own case, every time the word measles is mentioned, he sees two Indian clubs standing side by side, always at the same distance. His explanation is that it is probably a forgotten incident of childhood similar to his worry about X for Xenophon—he did not understand how the man could live in grease. (There is a pun on words here.) Continuing in this vein, he says: "Do you know about the memory course which enabled the student to recall the name of his stout neighbor, Glummock, by associating the idea of stomach which rhymed? It worked well enough till the aspirant to perfection of memory confidently greeted Glummock as Mr. Kelly! It is important to associate the right ideas. Did you ever visualize a dilemma? It ought to look like a Texas steer—at least the thing has two horns. They are often long and sharp.

Ralph B. Kraft, Chicago, has been appointed representative for the Hill Clutch Machine & Foundry Co. of Cleveland, Ohio, manufacturers of power transmission machinery and agitator equipment. He will cover the states of Illinois, Indiana, Wisconsin, Missouri, Kansas and Minnesota.

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The Shortest Distance Between Two Points

When in need of specific information pertaining to pulp and paper mill machinery or supplies, make use of the old geometric axiom by referring to a most recent edition of the Paper and Pulp Mill Catalogue. Its pages contain such a wide variety of information that it is seldom necessary to look further. It is the one publication that points the way in a straight line to what you want.

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PAPER AND PULP MILL CATALOGUE

333 N. Michigan Avenue Chicago, Illinois

PACIFIC COAST

WASHINGTON

Longview Manufacturing Fiberboard

The Longview Fiber Co., Longview, which until the past few months shipped its fiber away for manufacturing purposes, has now built up a good business in its converting plant installed to make boxes, bags and other shipping containers. At present 70 per cent of their container output is sold to west coast trade, and fiber cartons made by this company are used by Hawaiian shippers for much of the pineapple which reaches the west coast.

The fiberboard is made of discarded wood chips and thus uses by-products not otherwise going into manufacture, while giving employment to local labor. Paul M. Wineman is in charge of sales at the plant.

H. R. Heuer, formerly of the Newton Falls Paper Co., New York City, has become an assistant in the pulp section of the new Weyerhauser mill at Longview.

The Sumner Iron Works, Everett, has completed a 110-inch chipper, said to be the first of this size on the west coast, for the new Weyerhauser pulp mill at Longview, and has an 84-inch chipper under construction for the International Wood & Sulphite Co. Some transmission machinery and chipper equipment for the Olympic Forest Products Co. has also been turned out recently by this company.

Axel Klingberg, formerly associated with the Puget Sound Pulp & Timber, Everett, as chief chemist, is now with the Washington Pulp & Paper company, Port Angeles.

The Stewart Paper Products, Hoquiam, is a new organization formed for the purpose of handling some special lines of the Grays Harbor Pulp & Paper Company. Lowell P. Mickelwait and DeForest Perkins are members of the company which has a capitalization of $50,000. W. C. Lucey, superintendent of the mill, states that the principal products to be promoted are cash register and adding machine rolls and other similar lines.

CALIFORNIA

C-W Converting Plant in Operation

The new converting plant of the Crown Willamette Paper company which has just been completed at 2945 East Twelfth street, Los Angeles, will supply the trade with fruit and vegetable wraps in the Arizona and California territory, and will pinch-hit in addition for the northwest converting mills as needed.

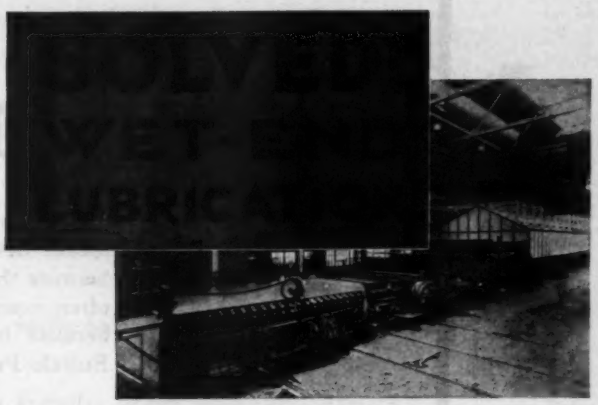
In view of the fact that citrus fruit alone in these two states goes out in annual shipments totaling in excess of 75,000 car-loads, and that melons and vegetables add greatly to the market for special wraps, the new plant is expected to be kept busy many months of the year.

An outstanding feature of the plant is the humidifier system to control temperature storage for Jumbo rolls. All unfinished stocks of wrapping tissue may be kept in the storage room under complete temperature control until such time as needed, this room being the same size as that for finished stock, 195x110 feet.

W. R. McHaffie, manager, has been associated with the Crown-Willamette Paper company for almost 40 years and has been in Los Angeles for the past 15 years.

Although this new plant will specialize particularly on the lines named, it will also do some production on other special tissue products.

The Patterson-Pacific Parchment Co., San Francisco, distributors of paper specialties, has announced start of con-



Wet-End Lubrication is now solved by Houghton's Cosmolubric No. 460 for all oiled bearings and Houghton's Absorbed Oil L 44 for all greased bearings.

Water-wash, the enemy of ordinary lubricants, will not affect Houghton's Absorbed Oils, which "stay put" in the bearings. Ordinary lubricants will wash off the table roll bearings and clog the wire, necessitating frequent scrubbing.

The sticking of the table rolls causes undue wire wear and produces flat surfaces on the rolls. When the roll bearings are again oiled, and production resumed, the flat surfaces of the rolls cause excessive vibration and unevenness on the pulp web. The use of Houghton's Absorbed Oils eliminates all of these undesirable features.

Ask a Houghton Lubrication Engineer to assist you.

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struction on a new building at 68 Rincon, the contract having been let to Harry C. Knight. The building will be used for general operating service, storage and distribution.

Agreement Reported Between Falk and Zellerbach

Report has been current that the Falk interests of Milwaukee, Wis., have entered into an agreement with George T. Cameron, manager of the San Francisco Chronicle and Harry Chandler, manager of the Los Angeles Times, and Zellerbach interests, to transfer their title to 7,000,000,000 feet of timber on Quatsino Sound on Northern Vancouver Island.

The plan is said to contemplate the acquisition of F. W. Leadbetter interests in the Vancouver Kraft Mills, Ltd., on Howe Sound, British Columbia. In case of such an arrangement the logs would be transported 245 miles for conversion into paper.

Introducing Tex-Tone on Coast

The G. E. Dalton Co. of Los Angeles, has been appointed to introduce Tex-Tone Paper Products Co. of New York, with special attention to kraft wrapping paper with imprints of customer identification. Distribution is being made through coast jobbers.

A survey being made by the owners of the patent is said to be for the purpose of determining market possibilities for production of Tex-Tone in Pacific coast territory. The probability is that some mill in the northwest would be the first to be granted rights of manufacture.

The cost of stamping the paper with these identification marks is said not to be great and the distinction which would accrue to the consumer through use of this paper would be a factor in bringing it into general use, in the opinion of those interested.

L. J. Arms, sales manager for National Paper Products in the western territory, has been on a five weeks trip to Denver and Salt Lake City by way of the northwest. He is particularly concerned with promotion of a new brand of toilet tissue and towels being made at the new plant of the company at Camas, Wash. These products are wrapped in cellophane and are of a new high quality.

The Pioneer Paper company, Vernon, Calif., has purchased one and one-half acres of property adjoining the plant at Fifty-fifth street, to be used for expansion purposes of the plant.

The Jaite Company of California will start construction soon on a new plant at D and McFarland streets, Wilmington, the first unit to cost $125,000 including equipment. It is reported that this plant will be expanded from time to time to reach possibly an investment of $500,000. This is the second coast branch of the Jaite Co., the other being at St. Helens, Ore. Floor space of 25,000 square feet will be available in the new unit which consists of a building of steel construction 240 feet long.

OREGON

The Hawley Pulp & Paper Co., Oregon City, has announced that effective November 15 the wages of all employees will be reduced ten per cent, this being the first cut made by this concern although general cuts had been made by other western mills earlier this year.

The Salem Building Congress, with the objective of providing as much employment as possible, is asking the Oregon Pulp & Paper company to go forward with a building program for which the paper company obtained vacations on Trade street last year. At the time the vacations were made it was announced that work would probably start within six months. However the Oregon Pulp & Paper company has been making some improvements in recent weeks, the Austin company having installed a silter system and settling basin in the

Jones

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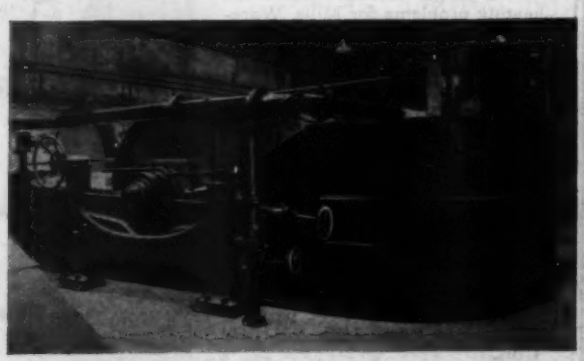
IF YOU ARE INTERESTED IN REDUCING BEATER OPERATION COSTS, WE CAN HELP YOU DO SO.



A JONES Beater Installed in an Eastern Book Mill

E. D. JONES & SONS COMPANY
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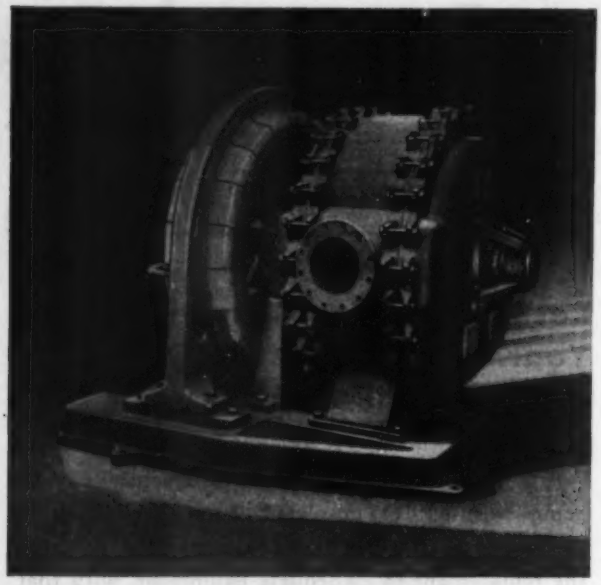
BUILDERS OF HIGH GRADE MACHINERY FOR PAPER MILLS



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THE preference of the paper industry for Nash Hytor Vacuum Pumps is best illustrated by the large number of important mills which these dependable units serve.

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Nash Hytor Vacuum Pumps are furnished in capacities up to and exceeding 5000 cu. ft. of air per min. For vacuums up to 26 inches of mercury.

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If you're looking for economical heating for any part of your plant, look into the Grid Unit.

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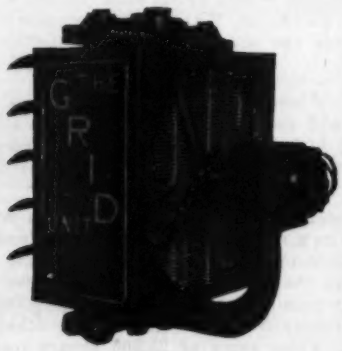

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The Unit Heater and Cooler Co.
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basement through which white water waste will be handled. The company has previously had trouble with waste disposal during flood season in the river.

B. W. Sawyer, representative of the Foxboro Co. in the Pacific northwest and Alaska, is a new member of the Pacific Coast Section of Tappi. His headquarters are in the Lewis building in Portland.

Ray Smythe, formerly head of the Willamette Iron and Steel Works, Portland, but who recently severed his connection with that company to engage in business for himself, is now located in the Park building and announces that he is representing in Portland the Atwood Morrill Co. of Salem, Mass., and will offer consultation on equipment manufactured by the Glens Falls Machine Works; the Ruth's Steam Storage, Inc.; Economy Pumping Co.; the Vulcan Iron Works; the D. J. Murray Mfg. Co. and the Nortmann-Duffke Co.

◆ NEW ENGLAND ◆

Pulp Company Changes Hands

The Androscoggin Pulp Company of South Windham, Me., has been purchased by Schluter & Co. for the account of the latter company's associates, it was announced, October 30. No public offering of securities is contemplated to provide funds for the deal.

The Androscoggin company, established in 1870, is one of the oldest pulp manufacturing companies in Maine. It is equipped with five 800-lb. and six 1,200-lb. beaters and eight refiners; two 72-inch five cylinders and one 120-inch six cylinder, for the manufacture of test jute, case liners, bottle, cartridge, milk cap and similar products of woodpulp board. A groundwood mill operated in connection therewith is equipped with seven grinders, and five wet machines.

New England Market Situation

Although the paper price structure is supposed to be bottom, the Boston trade encountered new competitive factors on several grades of paper late in October. The State of Massachusetts received bids for the purchase of a substantial tonnage of machine finish book paper. Bids are understood to have ranged from 4.30-7.15¢ delivered, and the lowest price included bid on a middle western mill product.

Practically all bidders were agents or merchants except one. There is much curiosity as to whether the low bidder will get this contract or whether a higher bidder will receive preference because his mill happens to be located within the state. There is a controversy now raging between high state officials as to the propriety of awarding contracts on the basis of the lowest price when the bidder is from outside the state. In the case of federal aid highways, contracts have in more than one instance gone at a higher price to local companies thereby endangering the federal aid funds. That factor does not enter in the paper awards but the general principle of patronizing local industries at higher prices is very much to the fore.

Kraft paper at 2.75¢ delivered Boston with two confirmed sales at 2.65¢ has upset the wrapping market. Some northern mills have followed suit. Two manufacturers in New Hampshire previously had reduced their minimum price on kraft from 4¢ to 3.50¢, but at this writing have made no further changes.

Progress has been made in the efforts of C. L. Whittemore, traffic manager of the New England Paper & Pulp Traffic Association to have established a new transportation service. A meeting of the shippers' committee of which Mr. Whittemore is chairman, and representing all leading New England industries conferred October 28 with representatives of the New England railroads. The new plan in brief would set up a new low minimum weight on each commodity, said

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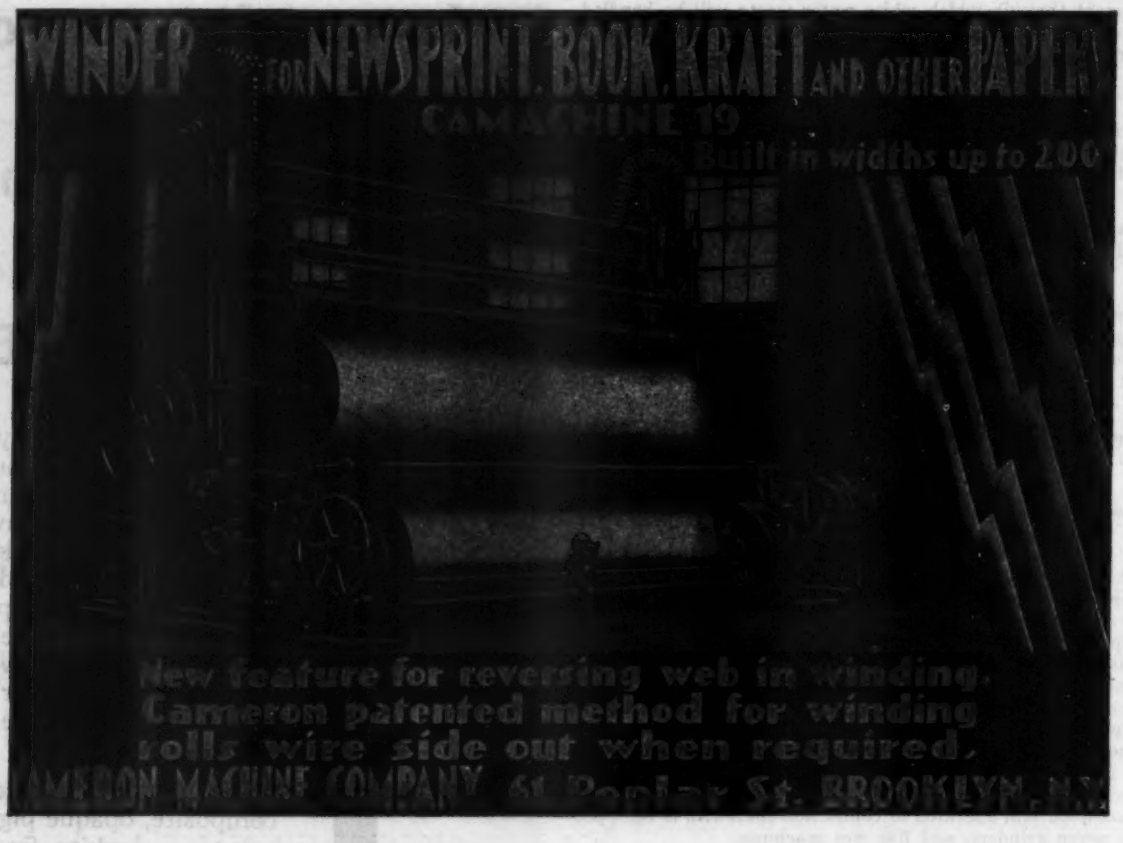
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minimums to be transported by rail and truck direct and in one car to consignee. Rates intermediate to carload and less carload traffic would be charged. The establishing of such a service between certain paper mill points and Boston, for example, would be assured of immediate patronage.

New England Freight Association dockets a proposed rate for the storage of wood pulp in cars at Boston, to place Boston on a comparable basis with Portland, Me. For the first 30 days or fraction thereof the rate would be 15¢ per net ton and for each succeeding period of 10 days or fraction thereof it would be 5¢. There is no arrangement in effect at present chiefly because in the past railroads have complained that pulp in car storage created congestion at Boston docks.

Unusually heavy shipments of wood pulp from Scandinavian ports and some from the west coast have arrived during the last two weeks of October at Portland, Me., and Boston. In one week some 13,491 tons of baled pulp arrived from Sweden, Norway, Finland, Germany and the state of Washington at Portland. In the same period an untabulated total but probably as large or larger arrived in Boston in seven steamers. Use by S. D. Warren Co. of west coast sulphite and discontinuance of their own sulphite mills is partly responsible for heavy west coast shipments.

National Association of Credit Men report most encouraging regional reports from New England particularly from western Massachusetts the fine paper district.

New Bird Products

New Bird & Son products are about to be added to their general distributor stocks. These are insulating boards or adaptations thereof, and are results of 1931 experimentation and research. Of four new products, the insulating board and lath is considered most important. This has been made, however, for sometime previously by the company's Canadian affiliate, Building Products Ltd., but it has been improved and was first made at East Walpole in August. It is a laminated stock, five layers of groundwood alternating with four layers of asphalt. It is waterproof and strong, providing a high degree of insulation. The insulating lath is the same product cut to various sizes. It fits in with the modern need for extra insulation in gas or oil heated homes where the maximum of tightness is desired to conserve costly heat. The mill reports a good response for this product despite its newness.

Other new insulating products of the Bird mills are insulating blanket, insuliner and interstud insulation. Where the insulating board or lath is a substitute for wooden or metal lath, the other products are straight protectors against temperature extremes.

The blanket is a flexible felt insulator, with a waterproof back of saturated and coated paper. It is one-eighth inch thick, made in 36-inch rolls, 250 feet to a roll and can be used in rafters between studs. The waterproof paper backing is laid towards the outside and is guaranteed to keep insulation dry.

A straight paperboard insulator is the "Bird Insuliner." This is of heavy board construction with dead air cells between two layers, said to increase insulating value 26 times over a single sheet. It is moisture proof and can be used in varying thickness.

Interstud insulation makes use of still air, the ideal insulator. This product is the result of long research by Bird laboratories to adapt this principle. The interstud is a strong fiber board, a quarter inch thick, constructed in the form of a hollow I beam of the right size to fit either 16-inch or 24-inch studding without cutting. This hollow fiberboard I beam fits snugly between the studs making three dead air spaces between the outer sheathing and the inner wall. Thus triple insulation is provided without sacrifice of space. To further heighten the value, the air is caged up by inserting a header strip which seals up each 36-inch section. No circulation within the air spaces is possible. It is a fire protector, for

NEW ENGLAND
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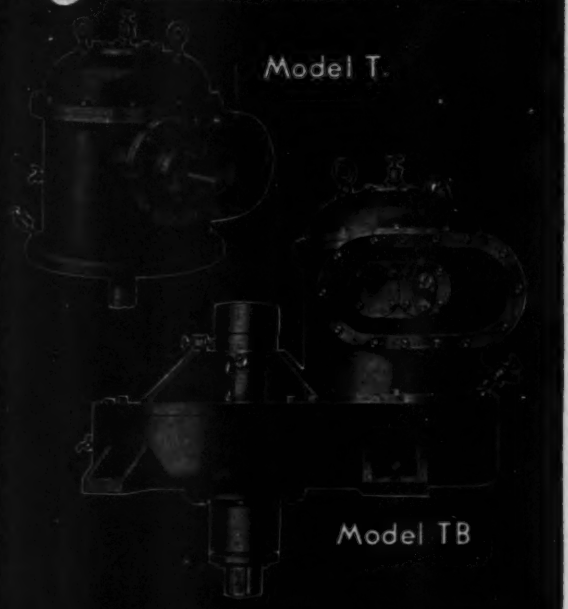

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Which absolutely control the drying of the sheet. Installed on sixty days' trial

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For lifting paper rolls, removing calender rolls or raising Fourdrinier wires, use ROEPER Type "R" Electric Hoists—With or without Trolleys—Speeds up to 40 feet per minute—Send for Bulletins.

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Lessons in Paper Making

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One of the greatest funds of information on paper making ever published for the mill man.

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by thus sealing up the interstud spaces it prevents the sweep of flame which starts once they have reached this region of a dwelling. Experiments have proven that fire could proceed very slowly in a house so insulated. The Bird organization claims fuel savings up to 30 per cent are possible and soundproofness, fireproofness, and heat and cold resistance are the four strong claims made as the sales division launches this product on the trade, adding four more to the endless variety of paper products made at East Walpole, Mass.

West Dudley Paper Co., West Dudley, Mass., has been awarded reparation by an interesting I.C.C. decision covering shipment of paperboard from West Dudley to Chelsea, Mass., and Pawtucket, R. I. The Commission by this decision establishes 90 per cent of sixth class as a fair rate within New England and on the New Haven R. R. lines as a fair basis for paperboard and roofing and building paper. Furthermore the New Haven R. R. defendant in the case who had asked for reconsideration of a decision involving Case Mfg. Co., Unionville, Conn., and had attempted to consolidate the two saw the Connecticut decision previously in their favor reversed and 90 per cent of sixth an established basis for building paper as well. The Case Manufacturing Co.'s claim preceded the West Dudley issue.

Massachusetts Department of Labor and Industries reporting employment conditions in Massachusetts for the month of September, find employment in 30 paper and pulp mills in the Commonwealth slightly higher. Operatives at work in August totalled 5,532, in September 5,697. Of this number 1,767 were on full time. If these 30 plants were on full time all machines running, they would require 7,003 persons. Another favorable aspect of the situation was a slight improvement in the numbers employed by book and job printing plants. The increase in 20 representative plants surveyed was small, but nevertheless was in contrast to the previous downward trend. Some 31 paper box plants showed a slight decrease in numbers at work during September compared to the previous month.

For several months New England mills have been doing relatively little installation of new equipment, following the very heavy expenditures of 1930 and early 1931. Failure of business to respond caused a tightening of the reins on all expenditures not absolutely necessary. Now there are signs that the purse strings are to be loosed a bit, one large northern New England mill is planning for an elaborate and up to the minute filter system, power plant projects are contemplated, many mills are considering installation of oil for fuel, as oil at 65¢ per barrel recently quoted in Boston is at least $1 perhaps $1.25 cheaper than nut and slack coal.

Russell Paper Goods Company of Russell, Mass., is a new corporation formed by two officials of Westfield River Paper Co., Russell, Mass. The corporation papers state that the company is chartered to "coat, process, convert, emboss paper and cardboard. Capital is $50,000. The officers and incorporators are E. Converse Lincoln, president; Paul F. Moore, vice-president, and John J. Costello, treasurer.

In a symposium of industrial opinions collected by the Boston Chamber of Commerce from leading Massachusetts industries concerning their business condition, we glean a number that are of considerable interest and hope to the paper trade. Package Machinery Company, manufacturers of all types of wrapping and packing machines in Springfield, Mass., report that 1931 has been the best year in its history, quite an amazing statement. Right through the depression, says Roger L. Putnam, president, the company's business has been growing due in considerable part to the use of transparent wrappings for many food, smoking and other products.

For the manufacturers of white paper it is heartening to learn from such outstanding printers as Buck Printing Co.,

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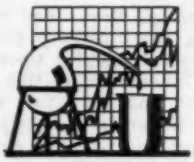

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Boston, that business has shown a substantial improvement this fall. New orders for machinery were given because business was expected to improve. University Press and Tolman Print, New England printers, have the same hopeful message. Stetson Press reports business so much better that overtime work is in prospect for many weeks.

Arthur V. Howland, vice-president and general manager of Tileston & Hollingsworth Co., Boston book paper and general fine papermaker, is head of a committee sponsoring an exhibition of printed advertising from the Pacific Coast, together with a display of similar matter from Germany, England, France and Czechoslovakia. It was held at the Boston City Club gallery, during the last week of October and first week of November. The committee will sponsor many more exhibits during the winter. Serving on the committee with Mr. Howland are leading printers and commercial artists of Boston.

Thompson Box Co., manufacturers of paper boxes, Boston, was sold at public auction largely piecemeal by Samuel T. Freeman & Co., auctioneers, on October 30.

Frank Wyman one of New England's best known purchasing agents, for years in that capacity with Falulah Paper Co., is now assistant to President Joseph Lowe of the same company. New buyer for the company is Walter A. Lowe who has just been inducted into the new England Purchasing Agents Association. Falulah is actively merchandising two strikingly unique lines of Falpaco Dull Coated Cardboard, Ultra Blue and Ultra Yellow made with imported dyes. Throughout the country attractive sample portfolios have been sent. Another relatively new Falpaco paper is "Kraft-In-Middle," a Falulah product of two Falpaco blanks with kraft between, valuable for cards which are to be scored, imparting extra strength and protection.

The Boston chapter of the Waste Paper Institute, affiliated with the National Association of Waste Material Dealers was formed at a meeting held in the Hotel Statler, October 14. The following officers were elected: Robt. G. Graham, P. H. Graham & Sons, chairman; Wm. Brown, D. DeStefano Co., secretary-treasurer; B. Gold, North Shore Waste Paper Co., vice-chairman. Members of the executive committee are: Richard Graham, J. J. Graham Paper Co.; Geo. M. Graves and Harry Shuman, Braver Healey Co. Chas. M. Haskins, national secretary was present and discussed the conference with the Paper Board Industries Association and a proposal for standard waste paper classification.

George Alpert, Carl F. Woods and Geo. W. Wheelwright, receivers for George W. Wheelwright Paper Co., Leominster, Mass., reported last month that some slight improvements in the company's affairs have taken place under receivership. Net quick assets were $465,565 in mid September, up about $8,000 for the month. By cutting wages five per cent, by shifting some men and dispensing with others, the receivers have already effected an annual saving of $40,000 without affecting normal operations. Receivers netted $5,685 on $129,881 gross in the first month of sale, thus giving rise to hopes that the company under rigid control may gradually cut its indebtedness and continue to operate indefinitely.

John B. Rieg

John B. Rieg, of Orange, Mass., president of the Erving Paper Mills, Erving, Mass., died on Thursday, October 8, in East Acton, Mass., of heart disease at the age of 59, while on a motor trip to Boston. Mr. Rieg was born in Conneaut, Ohio, where he was for a time associated with his father in publishing The News Herald. Later he was connected with various printing and paper companies before settling at Orange and becoming president of the Erving Mills.

Roy H. Underdown, formerly of Heller & Merz Corporation, is now manager of the Philadelphia office of American Dyewood Company, in the Public Ledger Building. Mr. Underdown, who had been connected with the Heller & Merz Corporation in charge of their Philadelphia office for the past 20 years, is the fifth of the old Heller & Merz organization to sever the connection and take similar positions with the American Dyewood Company, which features a line of papermaking dyestuffs.

Harry L. Erlicher has been appointed purchasing agent of General Electric Co., Schenectady, N. Y. to succeed L. G. Banker, who retired October 1 after completing 43 years continuous service with the company. Mr. Erlicher began service with the company as an office boy. He was rapidly advanced until 1923 when he was made assistant purchasing agent.

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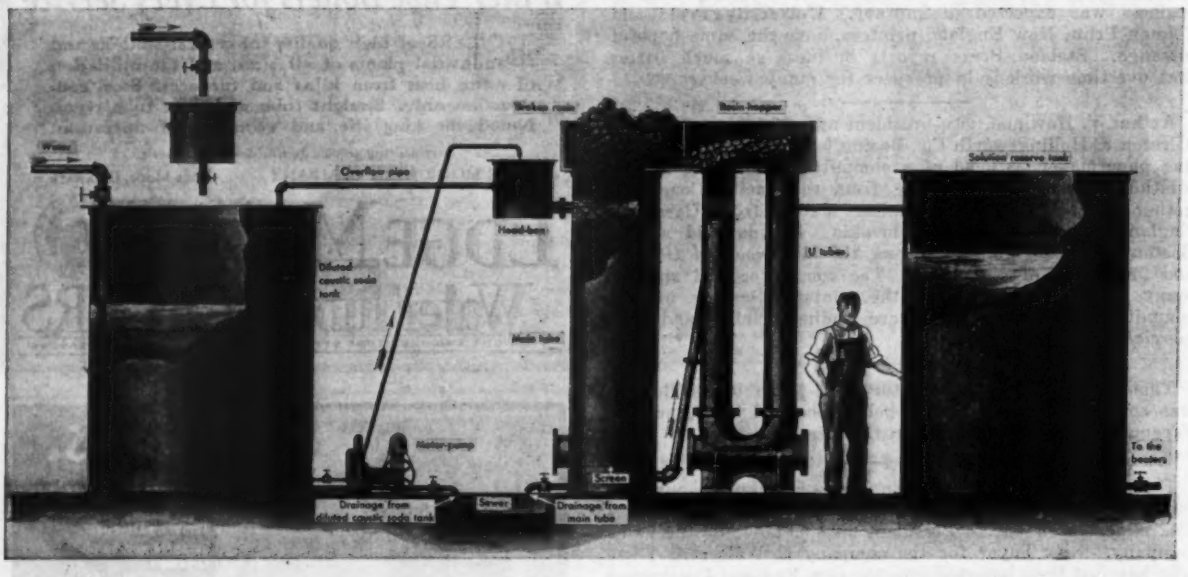

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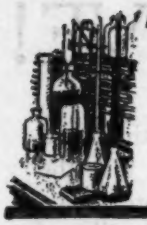
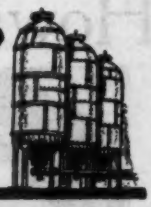


Technical Developments in the Paper Industry



Domestic and Foreign

The following abstracts are of the latest developments found in the foreign press and the domestic and foreign patent offices. Photostats and translations of complete articles and patents can be obtained at cost price.

Resin in Pulp

PRACTICAL experience with the presence of resins in pulps, its determination and the results brought about by the same are described. In one case a Ritter-Kellner pulp, easily bleachable quality, was made in a twelve to fifteen hour digestion period. The ether extract was 0.9 to 135 per cent. Resin spots were formed in the paper made from this pulp. It was found that hour-long mechanical treatment of the stock without beating resulted in lowering the ether extract to 0.6 per cent and many times to 0.34 per cent. Some interesting details are given in the original article on the method used in the determination of the resin in the pulp.

Experiments were made to determine the effect of extracting a fresh pulp and one that had been allowed to remain untouched for several months. It was found that as a general rule the ether extract became lower as the pulp sample was allowed to stand, although not in a direct measure, but the sum of the extraction with organic solvents was higher for the most part. If, however, the water extract is considered, the sum of the extracts was lower after storage of the wood.

As far as the problem as to when to expect resin difficulties in the paper is concerned, there are many factors involved. The mineral constituents, their composition and the size of the particles are all important in a certain measure. The colloidal character of the charge to the beaters, the character of the water, the pH coefficient of the beater contents, all have a certain influence in the formation of lumps of resin. Certain conclusions were possible from the mass of experimental and analytical data available. Thus in the case of the easy-bleaching pulp, mentioned above, it was found that a stock with 0.9 per cent ether extract, 0.20 alcohol extract and 0.3 per cent water extract, hence a total of 1.10 per cent of substances removable with the aid of organic solvents, represents the minimum at which resin spots are formed. It was found that when the total amount of ingredients soluble in organic solvents was reduced to 0.9 per cent, no resin spots were any longer formed in the paper. Other data of similar character is given in the original article. Dr. E. Richter, Wochenblatt fuer Papierfabrikation, 1931, pages 549 to 550.

Operating Paper Machines with Saturated and Exhaust Steam

A VERY thorough study has been made of the conditions surrounding the operation of the machine and its behavior. The following highly interesting conclusions have been obtained. The temperature at any definite point in the wall of the drying cylinders remains almost constant during the rotation of the cylinder. The wall temperature varies along the length of the cylinder jacket. The lowest temperature is found at the point near the entrance of the steam and the highest temperature near the condensate outlet. It is possible to direct the steam on entrance more against the front part of the cylinder by building-in a suitable baffle at the steam inlet. This has the effect of reducing the variation in the wall temperature.

The wall temperature rises at a constant pressure with increasing superheat in the steam. At the same time the differential between the temperature of saturation, corresponding to the pressure, and the wall temperature is decreased. The wall temperature increases with the pressure when the temperature of the steam remains constant. The transmission of heat from the steam depends in large measure on the cooling effect through the paper web. When wet paper webs run through the machine, substantially more heat is given off at the cylinder walls than when the paper is completely dried on the cylinder walls. A much lower steam pressure is required in the first instance in order to produce the same heating action.

When the cylinders are operated with superheated steam, care should be taken to see that the fibers of the paper are not injured. The danger of superheating the walls of the cylinders is nevertheless not very great, for the wall temperature is always less than the temperature of saturated steam corresponding to the steam pressure. If the wall temperature is to be no higher when superheat steam is used for heating the cylinders than when exhaust steam is used, then the pressure must be reduced to a certain degree in the first instance. Such a drop in the pressure is desirable in superheated steam operations.

Variations in the steam temperature have a definite influence on the wall temperature and hence on the drying process itself. Nevertheless, the temperature of the steam may vary within rather wide limits before any marked effect on the wall temperature can be noticed. Thus, for example, a pressure of 1.19 atmospheres in the cylinder causes a rise in the temperature of the cylinder walls by only 0.6 degree C. while at the same time the rise in the temperature of the steam amounts to 63 degrees C. The variation of the temperature of the steam can be controlled within narrow limits by the use of suitable regulating devices and hence under these conditions disturbances in the drying operation, which are met with, particularly in drying very sensitive papers, are avoided. Dr. F. Kaiser, Wochenblatt fuer Papierfabrikation, 1931, pages 499 to 503.

Producing Paper Colored on One Side

THIS patent is concerned with a process for the manufacture of paper which is colored on one surface only. The application of the color is effected at a certain part of the papermaking machine, that is between two groups of drying cylinders, where the moisture content of the paper web amounts to only 30 to 40 per cent. This is done so that the color is absorbed by the paper fibers in an absolutely uniform manner, and also so that the color is firmly fixed on the fibers. The color is applied by means of a roller which is placed below the paper web and which dips into a color trough. A pressure roller rests on the color roller. The latter is provided with an elastic, non-porous coating. The pressure, that is exerted between the rollers is so great that all irregularities in the paper are pressed out during its passage through the color press, this being facilitated by the elastic covering of the roller. E. Morterud, Torderoed b. Moss, Norway. Norwegian Patent No. 49,152, filed April 9, 1930.

Recovering Caustic Soda from Waste Liquors

THIS process is concerned with the recovery of caustic soda from the waste liquors collected in the manufacture of soda cellulose and which contain large proportions of silica. The feature of the process is the precipitation of the silica that is contained in the solution of the residual salts, that are left behind after the calcining process, in the regular course of waste liquor reworking in the soda cellulose plant. The precipitation is effected with the aid of carbon dioxide and in certain cases with the aid of sodium bicarbonate as well. The precipitated silica is then separated. The innovation in the process consists in the introduction of the carbon dioxide or of the addition of the bicarbonate in such proportions, that the

How Oliver United Save-Alls SAVE!

A New England paper mill, operating two Oliver United Save-Alls, has found that the Save-Alls save them more than fibre. The clear filtrate is being re-used in the mill and the heat saved by re-use of the water results in a daily coal saving, equivalent to 100 h.p.

At a mill in Pennsylvania, recovery from bond-stock by an Oliver-United Save-All averages over 97%. This mill, too, re-uses 70% of the filtrate on the showers.

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ratio of sodium bicarbonate to sodium carbonate by weight in the solution is 0.44. It has been observed that the separation of the silica is more complete, the greater the ratio of the weight of the sodium bicarbonate to the weight of the sodium carbonate in the solution. A limit is reached in this connection due to the comparatively slight solubility of the bicarbonate of soda and furthermore due to economic reasons as well. The maintenance of very low temperatures during the operation is also of considerable importance from the standpoint of thorough separation of the silica. When these conditions are properly maintained, it is possible to accomplish the complete separation of the silica. Societe Procedes Navarre, Lyons, France. German Patent No. 523,485.

Measuring Opacity of Paper with Photoelectric Cell

A VERY interesting application of the photoelectric cell, which is receiving so much attention nowadays in television, is for the measurement of the opacity of paper. The opacity of paper is, of course, one of the factors that determine the quality of the same. The illustration shows the way in which the cell is connected in the apparatus. The photoelectric current is extremely small and may be directly measured by means of a micro-ammeter or a mirror galvanometer, but it is best measured in industrial applications by amplification in a tri-ode lamp.

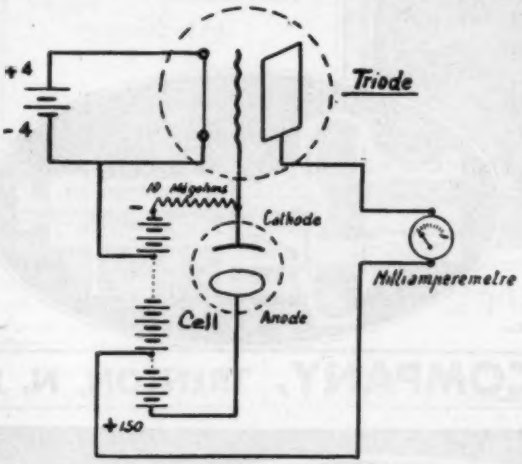


Figure 1

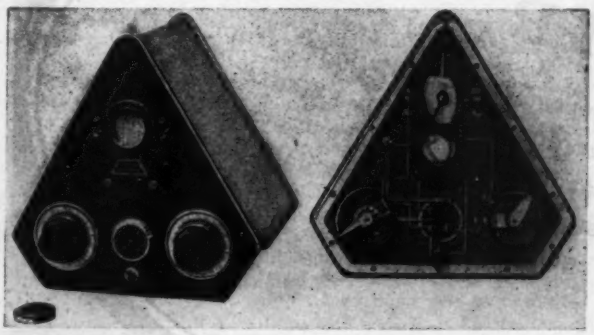
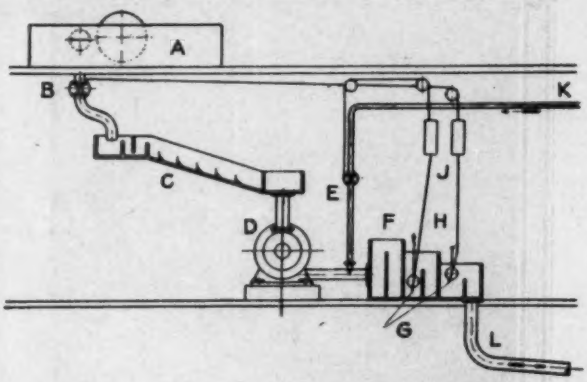


Figure 2

The actual measurement of the opacity of the paper is a very simple matter. It is very quickly and accurately made with the aid of the apparatus shown in Fig. 2. The cell is first exposed directly to the light of a lamp and the current which results is measured. Then a piece of the paper that is to be tested is placed in front of the cell and the current is determined again. The ratio of the readings is equal to the opacity of the paper and the logarithm of the ratio to the optical density. C. Roy-Pochon Le Papier, 1931, pages 749-750.

New Process for Working Up Old Paper

THE illustration gives a diagrammatic plan of the arrangement of the various pieces of apparatus in an installation for reworking old paper and one which has many claimed advantages. Thus the reworking of the paper is accomplished in one operation and the stock can be fed directly into the stuff chest of the papermaking machine from the installation. The



old paper need not be sorted before treatment and the cost of the process is low. The disintegrating beater is shown at (A) in the illustration. The old paper stock is first fed into this machine. The beaten stock leaves the beater with a density of five to six per cent and passes through the pipe provided with a throttling valve (B). The stock then runs down a sand and nail catcher, shown at (C), wherein sand particles, stones, metal parts and the like are removed. The stock then enters the ball mill (D). The stock passes out of the mill into a series of vats in which floats are arranged, shown at (G). One of these floats is to regulate the density of the stock and the other the quantity of the stock. Thus the float controlling the density of the stock (F) is connected with a pressure cylinder of the regulator (J) to the throttle valve (B) and the water valve (E), with the result that the amount of water added through (E) to the stock leaving the mill (D) is so adjusted that a mixture of given density is obtained. The float which controls the quantity of the stock is shown at (H) and is also connected with the pressure cylinder (J) of the regulating device and with the throttling valve (B) which controls the flow of stock from the beater to the ball mill. The stock flows from the regulating vats to the stuff chest of the papermaking machine through the outlet (L). The water line is shown at (K). F. Blume. Wochenblatt fuer Papierfabrikation, 1931, 551-3.

Warm Grinding Mechanical Wood

THE purpose of the invention is to prevent the formation of cracks in the stone in mechanical wood grinders due to variation in the temperature while the grinder is not operating, and also to ensure the production of a first grade pulp product the moment that the grinder is set into operation again. Hence the temperature of the stone during the period that it is not operating is maintained constant by the addition of external heat. This can be accomplished by building electrical heating bodies or steam and water heating bodies into the grinder. G. F. Magnuson, Skoenvik, Sweden. Norwegian Patent No. 49,183, filed July 4, 1929.

Recovery of Alkali

THE process for the recovery of alkali from the residual liquors, that remain from the digestion of pulp with the aid of alkali bisulphite, is the subject of this patent. The combustion of the waste liquor, that has been concentrated, is carried out according to another process in an oxidizing atmosphere and the separated alkali is used in the place of sodium sulphate for the preparation of the digestion liquor for the alkaline digestion of wood. In accordance with the new process, before the residual liquor is subjected to the combustion process, this is mixed with alkali or alkali salts and sulphur dioxide in the requisite amounts, and is then used as the

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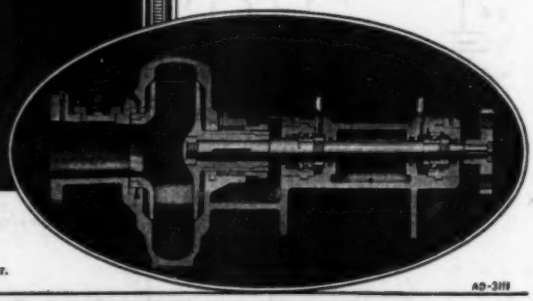

Above—De Laval Clogless Pumps driven through De Laval Helical Gears by standard speed motors, with gasoline engine as standby.

At right—Section of De Laval Clogless Pump with enclosed impeller.

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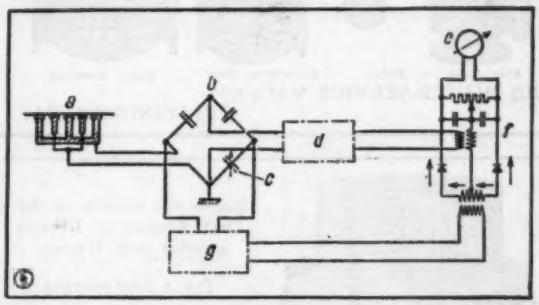
digestion liquor for a new digestion. This procedure may be repeated as often as necessary, until the waste liquor has been brought up to the required concentration. Stora Kopparsbergs Bergslags Aktiebolag, Falun, Sweden. Swedish Patent No. 71,405, filed February 6, 1926.

Automatic Recording of Moisture Content of Paper Web

THE new device differs from all others in principle. It makes use of the dielectric constant of the paper web in relation to the moisture content of the same in making the measuring problem is involved, inasmuch as the dielectric constant of the paper with varying moisture content of the same influences the capacity of a measuring condenser through whose diffused field the paper web is led. This relationship is a very favorable one as far as the technical side of the measuring problem is involved, inasmuch as the dielectric constants for paper air possesses the value of 2; that of water possesses a much higher value.



The following diagram shows the arrangement of apparatus in the measuring device. It consists of the cell (a) which undergoes changes in capacity corresponding to variations in the moisture of the paper web, a measuring bridge (b) a comparison condenser (c), the reinforcing device (d), the indicating device (c) a rectifier bridge (f) and a generator of 800 hp. Wochenblatt fuer Papierfabrikation, 1931, pages 718-721.

Paper with One Side Finished

A FEW practical details regarding the manufacture of chemical pulp paper finished on one side only are given. The strength of the paper is principally determined by the use of a strong, tough pulp, which has been prepared by digestion at a moderate temperature from sound wood. When the pulp is made from decayed wood, then it is never possible to obtain a proper degree of smoothness in the finished side of the paper and the causes of this difficulty are often looked for elsewhere than where they actually exist. It is essential that the strength of the paper fiber should be retained until the stock is fed to the machine. This necessitates the use of proper equipment in the mill. The second important property of the paper is the smoothness of the finish and this will be obtained in satisfactory manner if the aforementioned conditions are maintained, in addition to maintaining a certain amount of moisture in the paper web before it passes through the calender rolls, whose temperature must also be regulated. The preliminary drying of the paper web must be carried out with care and the water content of the dried web must be between 30 and 40 per cent. W. Sembritzki, Wochenblatt fuer Papierfabrikation, 1931, page 670.

Rotary Cross-Shaped Mill for the Paper Industry

THE first part of the article is concerned with a description of the disadvantages of the beater for preparing the paper stock, as well as with the difficulties encountered with the rod mill and the roll mill. The discussion is quite long and the author reproduces photomicrographs to show the difference in the stock obtained by using the beater and the roll mill. The discussion also includes the operating characteristics of the drum mill, the types provided with stream line beating device and rotary beating devices.

The second portion of the article is concerned with the cross-shaped mill, a diagrammatic sketch of which is shown in the accompanying illustration. As may be seen therefrom, the chain-like coupling of the stones is accomplished in such a manner that the force of gravity of the entire system is in equilibrium with respect to the central axis and only a bearing pressure remains over on the bearings of the central axis. When the mill is started, the stones are automatically lifted and press against the walls of the drum with an increasing pressure dependent on the existing centrifugal force. As the walls of the drum become worn out, the stones automatically adjust themselves to the new surface. The outer drum of the mill remains stationary and is provided with suitable charging and discharging openings. Due to the action of the centrifugal force of the entire mill system, the stock is uniformly beaten or disintegrated to a degree not attained by the ordinary beater or special forms of refining mills used up to the present time. The consumption of power in the mill is very much less than in the beater, varying from 5 to 10 per cent depending on the character of the stock as against 60 to 90 per cent in the case of the beater. The beating surface available in the mill is also very large and can be regulated with great accuracy. Fig. 2 shows the rotor of the mill (laboratory size). Anon. Wochenblatt fuer Papierfabrikation, 1931, pages 879 to 883 and 944 to 949.

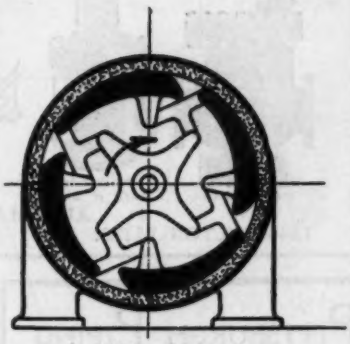


Figure 1

Figure 2

Sizing Paper

THIS process is concerned with the sizing of paper by treating it with sizing materials of the type of rosin soaps, which contain as well alkali bisulphates and aluminum sulphate. The feature of the preparation of the sizing composition is that the aluminum sulphate is added after the alkali bisulphate. Thus forty parts by weight of alkali resinate, which has been obtained by the action of an alkali salt on rosin, are dissolved in one thousand parts by weight of hot water. This soultion is poured into the beater. Then two solutions are prepared. One is made from 180 parts by weight of aluminum sulphate and the other from two hundred parts by weight of sodium bisulphate. These two solutions are fed separately into the beater which already contains the alkali resinate. The solution of sodium bisulphate is fed into the beater about 30 minutes after the rosin soap has been added, and the solution of aluminum sulphate is added about 15 minutes after solution of sodium bisulphate. The acidity of the pulp mixture can be partially or entirely neutralized

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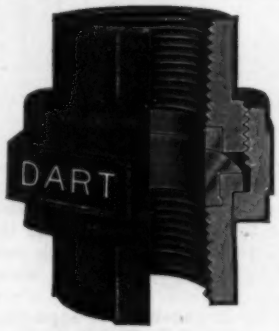

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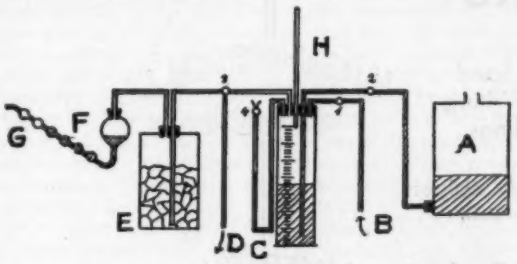
by the addition of a suitable alkaline salts, such as calcium carbonate. One thousand parts by weight of pulverized chalk are suitable used for the neutralization of one thousand parts by weight of sulphuric acid of 66 degrees Bé. concentration. Ernst Lecoq, Belgium. Austrian Patent No. 122,015.

Bleaching Sulphite Pulp with Chlorine Gas and Chloride of Lime

THE first part of the article is concerned with a review of the work done on the determination of the consumption of chlorine and of chloride of lime. The second part is experimental and a long series of experiments were carried out and detailed results published. The influence of various factors on the bleaching process was also studied. The apparatus used



in the quantitative chlorination of pulp is shown in the accompanying illustration. In this figure (A) is a Wolff bottle for regulating the pressure, (B) the connection from the chlorine bomb, (C) the gasometer with water manometer, (D) the connection to the suction pump, (E) the chlorinating vessel, (F) sodium hydroxide blubs for the absorption of chlorine, (G) a connection to the suction pump and (H) a thermometer. Some of the interesting points brought out in the conclusions regarding bleaching with chlorine gas are as follows. Contrary to what has generally been found, the formation of hydrochloric acid during the chlorination of the cellulose did not cause its hydrolysis. The yield of pulp is about 0.4 per cent less in the case of the gaseous chlorine bleaching process as compared with the chloride of lime process. This loss is explained by prolonged washing operations in the former process. It is also possible that in the chlorine gas bleaching a greater elimination of incrustating impurities takes place and this naturally reduces the yield to a certain extent, but the quality of pulp is improved. The consumption of chlorine in the gaseous chlorine bleaching process, based on the lignin content and the bleaching loss, is less favorable than that in the chloride of lime process. The saving in cost of chemicals in the gaseous bleaching process is approximately 34 per cent as compared with chloride of lime staged bleaching and fifty per cent as compared with the ordinary process. Dr. H. Rauchberg. Der Papierfabrikant, 1931, pages 490 ff.

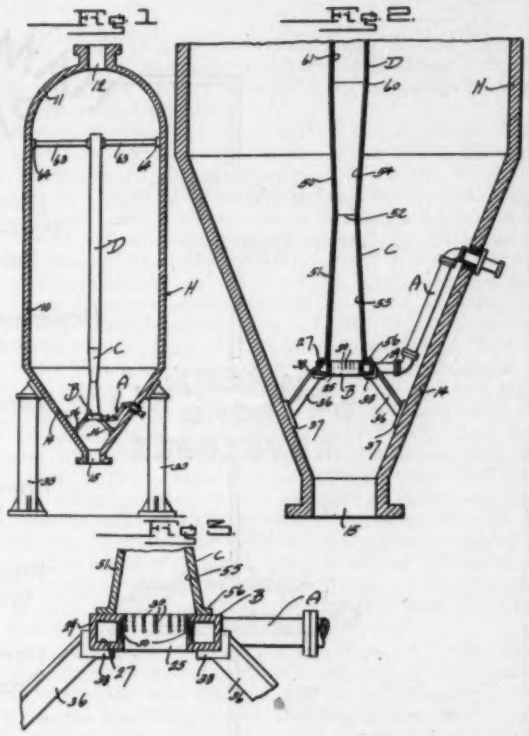
Continuous Circulating System for Digesters

A NEW method of providing continuous circulation of cooking liquor in a digester is used in an invention on which United States patent rights have been granted to Albert G. Natwick, of St. Catharines, Ont., Canada. Dry steam is passed through a venturi tube to create a suction which draws the liquor up through the center of the digester, as indicated in the accompanying sectional views.

Fig. 1 shows a digester in longitudinal section containing the circulating apparatus. In Fig. 2 an enlarged fragmentary section of the bottom cone of the digester is shown, where A is a steam pipe through which superheated steam is admitted under high pressure to a hollow annular casing or series steam jet B. C is a venturi tube at the bottom end through which the cooking liquor is drawn up by suction caused by the steam issuing from jet B, there being a screen at the bottom to separate the chips from the liquor.

In Fig. 3 the nozzle of the circulating apparatus is shown in greater detail. Thus it will be seen that steam pipe A connects in the outer wall 29 of the jet casing, so that the steam is fed into the annular compartment 27, escaping through the upwardly inclined ducts 30 which arranged in spaced vertical series about the inner wall of the jet which defines passageway 55. The ducts have a conical formation to provide a conical jet of steam of sufficient force to create a powerful suction.

The venturi tube C includes upper and lower tapered portions 50 and 51, having their smaller ends connected at 52. The respective passageways 54 and 55 conform to the tapered shape of these portions. At its larger end portion 51 is flanged at 56 and secured to the top wall of the annular jet B,



the passageway 25 of this jet opens into the lower end of the venturi tube passageway 55 which decreases in size to the constricted throat 52 of the venturi tube.

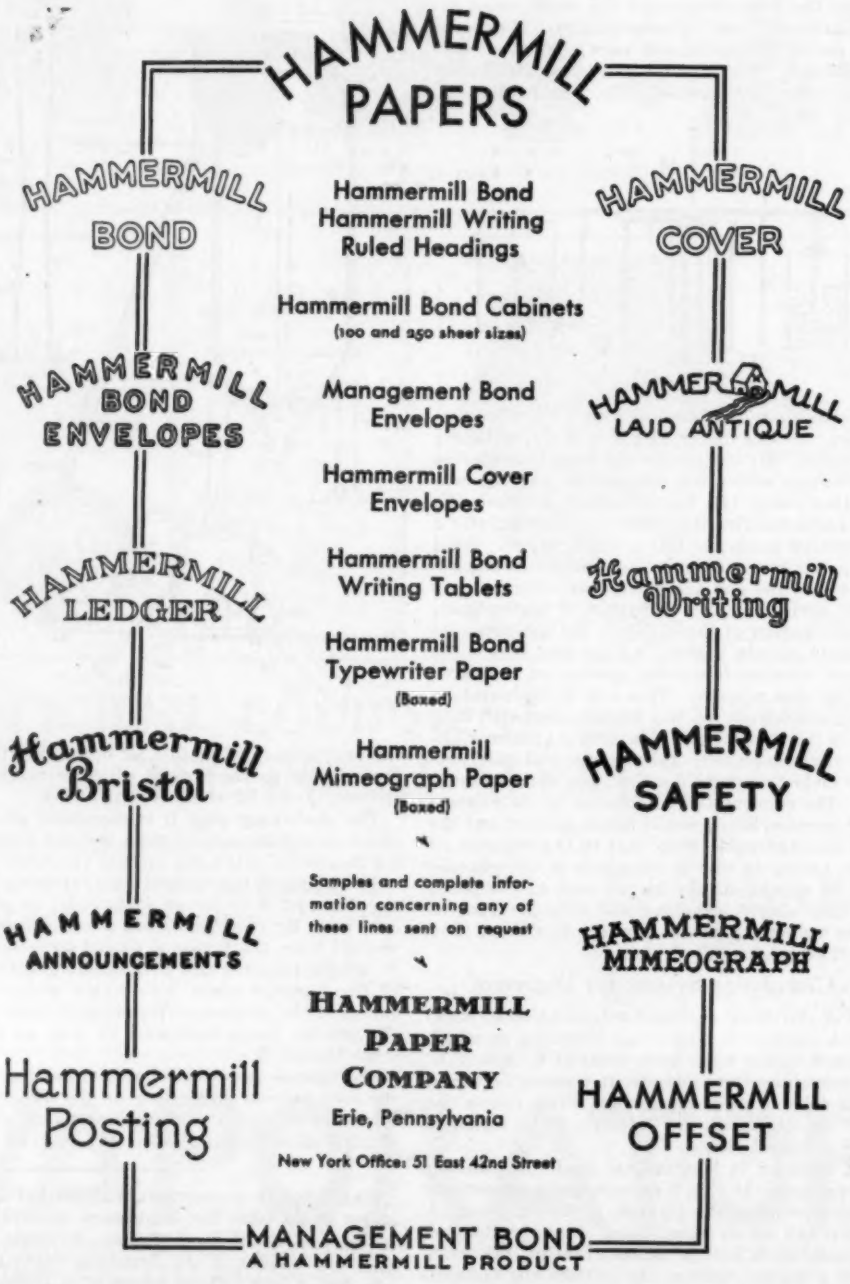
The conveying pipe D is connected at 60 (Fig. 2) to the upper end of the venturi tube and has a passageway 61 aligning therewith, this being open at the upper end of pipe D.

The liquor in the venturi tube increases in velocity of passage from jet B to throat 52 in order to provide effective circulation. By combined suction and pressure, assisted by the venturi tube, the liquor is forced upward into conveying pipe D, at the top of which it is discharged to fall to the bottom of the digester when it is again picked up by the suction forces of the suction nozzle at the bottom of the venturi tube, the process being continued so long as steam is allowed to enter the jet B.

The system can be used with either the suphite, sulphate or the soda process, depending on the material used in the construction of the circulating apparatus and digester, having in mind the action of alkalies and acids on metals.

Our Swedish contemporary, **Svensk Pappers-Tidning**, publishes in its issue for September 30, 1931, an excellent portrait of Richard H. Laftman, formerly vice-president and general manager of the Bogalusa Paper Company, Bogalusa, La., who is now general manager of Billingsfors Langed A/B, Billingsfors, Sweden, manufacturers of kraft and newsprint paper. Mr. Laftman was elected vice-president of the Technical Association of the Pulp and Paper Industry in 1929 and served a full term.

Lawrence T. Ross, Union Bag & Paper Corp., Hudson Falls, N. Y. was on October 21 registered as a mill pulp testing chemist.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BUSINESS in paper is on a fair scale. There is, without the semblance of a doubt, much room for improvement in the market, yet improvement is being registered—slowly but seemingly surely. Consumers, converters and distributors are not rushing to buy, because they are still possessed of a sufficient degree of "fear complex" to cause them to proceed cautiously in acquiring supplies, and are mostly awaiting more concrete indications of expansion in their own lines before adding to their paper stocks or commitments.

However, the fundamental classes of paper are moving into consumption in fair volume, and demand is gradually recording an increase. It is quite true that buying is chiefly of hand-to-mouth character, and that consumers are laying in little or no supply of paper, nor are they, except in cases where circumstances oblige them to, anticipating requirements and placing orders ahead with producers or dealers; also it appears equally true that few jobbers are carrying customary stocks of paper since they have found that they can secure prompt deliveries from mills. In short, the great bulk of paper now being manufactured and sold is going almost directly into consumption, and this in itself constitutes what may well be designated a bullish feature of the present situation.

What the paper industry needs above all else, it would appear, is a broadening of the consuming outlet, by which is meant improvement in the numerous lines of industry and trade where paper of various kinds is used. The industry itself seems in a comparatively favorable condition; at any rate, prices of paper of nearly every kind have been brought down to attractively low levels, surplus stocks in various quarters have been appreciably reduced, and manufacturers are striving to keep their production within the borders of current demand. Despite the favorable set-up presented to them by the paper industry, consumers are hesitant to buy except to satisfy definite and immediate requirements, and the result is that demand for paper is falling short of what it should be, and, as a group, paper mills are not obtaining anything like enough business to keep them well occupied.

Nevertheless, there seems every reason to believe that wrapping paper consumption is holding to a fairly steady level; that consumption of newsprint is on the rise; that fine papers are wanted in at least slightly larger volume, and that consumption of book paper is at last registering a gain after a long period of market dullness. A better feeling exists in general business circles. Some of the industrial and other statistics are beginning to show that improvement is setting in, the financial situation appears to be growing firmer, the movement of merchandise is starting to quicken as the preholiday season approaches, and some optimistically-minded authorities are asserting that the turn in the depression has finally come. Paper manufacturers and merchants are expecting much more business in the last two months of the current year, feeling that the increase in trade which invariably occurs prior to Christmas will certainly lead to a larger consumption and demand for paper, and that as general business improves, buyers of paper will not exercise such caution in absorbing supplies as they have practiced in recent months.

Paper production in the United States in August showed a four per cent decline as compared with the preceding month, reaching a total of 419,407 net tons of all grades in August, against 435,367 tons produced by identical mills in July, according to the monthly summary of the American Paper and Pulp Association. Production in the first eight months of this year aggregated 3,518,720 tons, contrasted with 3,906,881 tons by the same mills in the similar time of 1930. Shipments from mills during August amounted to 146,629 tons, against 437,233 tons in the preceding month, while stocks on hand at mills at the end of August were 259,596 tons, compared with 260,971 tons a month before.

Production of newsprint in the United States in September was 91,241 tons and shipments from mills were 90,303 tons, while production in Canada amounted to 178,412 tons and shipments to 178,181 tons, making a total for the two countries of 269,653 tons produced, compared with 253,468 tons in August, and 268,484 tons shipped, against 251,350 tons in August. During September, 24,901 tons of newsprint were made in Newfoundland and 1,410 tons in Mexico, so that the total North American production for the month amounted to 295,964 tons. The Canadian mills produced 231,906 tons less in the first nine months of 1931 than in the same time of 1930, which was a decrease of 12 per cent. The output in the United States was 110,894 tons or 11 per cent less than in the first nine months of last year; production in Newfoundland was 5,860 tons or three per cent more than in 1930, and in Mexico 1,065 tons more, making a continental decrease of 335,875 tons, or 11 per cent. During September, the Canadian newsprint mills operated at 57.7 per cent of rated capacity, United States mills at 63.6 per cent, Newfoundland mills at 102.3 per cent, and Mexican mills at 79.4 per cent, making a continental average of 61.8 per cent. Stocks of newsprint at Canadian mills at the end of September were 50,451 tons and at U. S. mills 33,517 tons, making a combined total of 83,968 tons, equivalent to 4.6 days' average production.

Mills in the United States produced a total of 213,491 tons of paperboard in August, or at 64.8 per cent of their rated capacity, compared with 222,927 tons or at 67.6 per cent of capacity in the preceding month, and 224,391 tons or 67.6 per cent in August, 1931, according to the summary of the board industry compiled by the U. S. Department of Commerce. Total output of board during the first eight months of the current year was 1,766,572 tons, contrasted with 1,839,394 tons in the corresponding period of last year. New orders for board received by mills in August called for 214,913 tons, compared with 221,048 tons in the preceding month, and unfilled orders held by manufacturers at the end of August were for 47,206 tons, against 49,698 tons a month earlier. Shipments of board from mills during August aggregated 217,405 tons, contrasted with 221,980 tons in July, and stocks of board at producing mills at the end of August were 79,873 tons, against 83,787 tons at the end of the preceding month.

The price situation in wrapping paper is still more or less demoralized. No one seems to know just what the market level actually is, but it is reported that southern kraft has been bought at three cents a pound and the No. 2 domestic brand at 3.25 cents. Fine paper quotations are adhering to rather steady levels although occasionally there is talk of this or that manufacturer shading prices with the evident intention of drumming up orders. On behalf of most of the fine paper mills, it should be said, however, that they are maintaining prices quite firmly. There is some price cutting being resorted to in book papers by manufacturers eager for additional business, and quotational levels of this group of paper are irregular. Newsprint is stationary quotably with no rumblings of any contemplated or impending change as the year nears to a close. Tissue papers are reported enjoying a little more demand and prices are moderately steady.

Boards have been in better call but demand is now slowing down, according to reports. Board prices are far from firm but are resting on the low levels to which they eased some while back. Roofing and other building papers are said to be in exceptionally slow demand, reflecting of course the limited building construction in most parts of the country.

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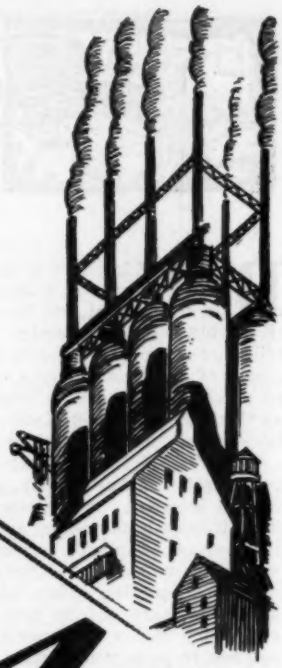

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Papermaking Rags

With paper manufacturers in general very cautious buyers of raw material while disinclined to absorb other than actually and directly needed supplies, a quiet market continues for papermaking rags. Occasional little spurts of activity are registered, but consumers are manifesting scant interest unless definitely in want of rags, and the market condition is still altogether in favor of those on the buying side. Prices have shown no improvement during the last month; if anything, market values of some grades of rags used in paper mills are on slightly reduced levels, and consumers are experiencing no difficulty covering their requirements readily and at what might be said to be favorably low costs.

There seems no question that fewer rags are reaching the market than in more ordinary times. The price situation not only has driven numerous collectors from the rag field, but it has caused packers and dealers with rare exception to appreciably curtail their sorting operations. Moreover, imports of papermaking rags into the United States have fallen to a very low level. Further, production of new rags in clothing manufacturing establishments and other factories where cloth is cut up and clippings produced has been reduced to a very great extent. However, the restricted supplies available are scarcely reflected in the market situation owing to the proportionate shrinkage in demand from paper mills. It is possible that in very exceptional cases paper manufacturers find that they cannot get all of some certain grade of rag which they may need, but as a general thing they are offered far larger supplies than they require or care to absorb currently despite the seemingly attractive prices quoted by dealers and importers.

Roofing rags constitute about the most active class of rags, as has been the case for some while. Felt paper mills are buying in very reserved fashion, yet are taking fair-sized quantities out of the market, principally domestic rags. No. 1 classification roofing stock is selling at around 75 cents per hundred pounds and No. 2 packing at 50 to 55 cents f. o. b. dealers shipping points. Very little imported roofing stock is finding a market, as consumers are covering their wants with domestic rags and at cheaper prices than the foreign material is obtainable.

Some dealers are disposing of new cotton cuttings at depressed prices simply as a means of converting part of their stocks into cash. There have been reports of sales of No. 1 white shirt cuttings to paper mills at 5.50 cents a pound, and even less, at shipping points, while fancy shirt cuttings are reported available at 2.25 cents and probably at lower levels, washables at 2.25 cents, blue overall cuttings at 4.75 cents, light silesias at 4.75 cents, and cottonade cuttings at 2 cents a pound. Unbleached muslins have been in moderately good demand and worth about 6.25 to 6.50 cents per pound at shipping points.

Old white and blue cottons have been almost entirely ignored by mill buyers, and it is difficult to ascertain exactly what prices are representative of the market since quotations are on so wide a scale. However, No. 1 repacked whites certainly are available at 4 to 4.50 cents a pound at shipping points, while repacked thirds and blues have been offered at 1.25 cents per pound.

Importers report that prices prevailing abroad on papermaking rags are mostly beyond a parity with market levels in the United States, and that consequently little business of importance is being accomplished. Values of foreign rags are very irregular and are largely nominal in the absence of transactions establishing market levels.

Average quotations f. o. b. shipping points and ex dock New York, many of which should be considered as strictly nominal, are as follows:

New Stock	New York and Chicago
White shirt cuttings, No. 1	5.25– 5.75
White shirt cuttings, No. 2	4.00– 4.25
Fancy shirt cuttings	2.25– 2.50
Washables, No. 1	2.25– 2.50
Unbleached muslins	6.25– 6.50
White lawns	4.75– 5.00
Overall cuttings, blue	4.75– 5.00
Black silesias	2.75– 3.00
Canton flannels, bleached	5.75– 6.00
Canton flannels, unbleached	4.75– 5.00
Shoe cuttings, bleached	5.00– 5.25
Shoe cuttings, unbleached	4.25– 4.50
Light silesias	4.75– 5.00
O. D. khaki cuttings	4.25– 4.50
Mixed khaki cuttings	3.75– 4.00
Corduroy cuttings	2.50– 2.75
Cottonade cuttings	2.00– 2.25
Linens, No. 1 white, foreign	7.50– 8.00
Light prints, foreign	2.75– 3.00
Old Stock—	
Whites, No. 1, repacked	4.00– 4.50
Whites, No. 2, repacked	1.75– 2.25
Whites, house soiled	1.50– 1.75
Whites, street soiled	1.25– 1.50
Thirds and blues, rough	.70– .90
Thirds and blues, repacked	1.25– 1.50
Lace curtains	3.00– 3.25
Black stockings	2.00– 2.25
Cotton canvas, No. 1	3.00– 3.25
White cotton batting	1.00– 1.25
Roofing, No. 1 (cloth strippings)	.70– .80
Roofing, No. 2	.50– .60
Linsey garments, foreign	.80– .90
Dark colored cottons, foreign	.65– .75
Blue linens, foreign	2.75– 3.00
Gray linens, foreign	3.00– 3.25
White linens, foreign	4.75– 5.00
Light prints, extra foreign	2.00– 2.25

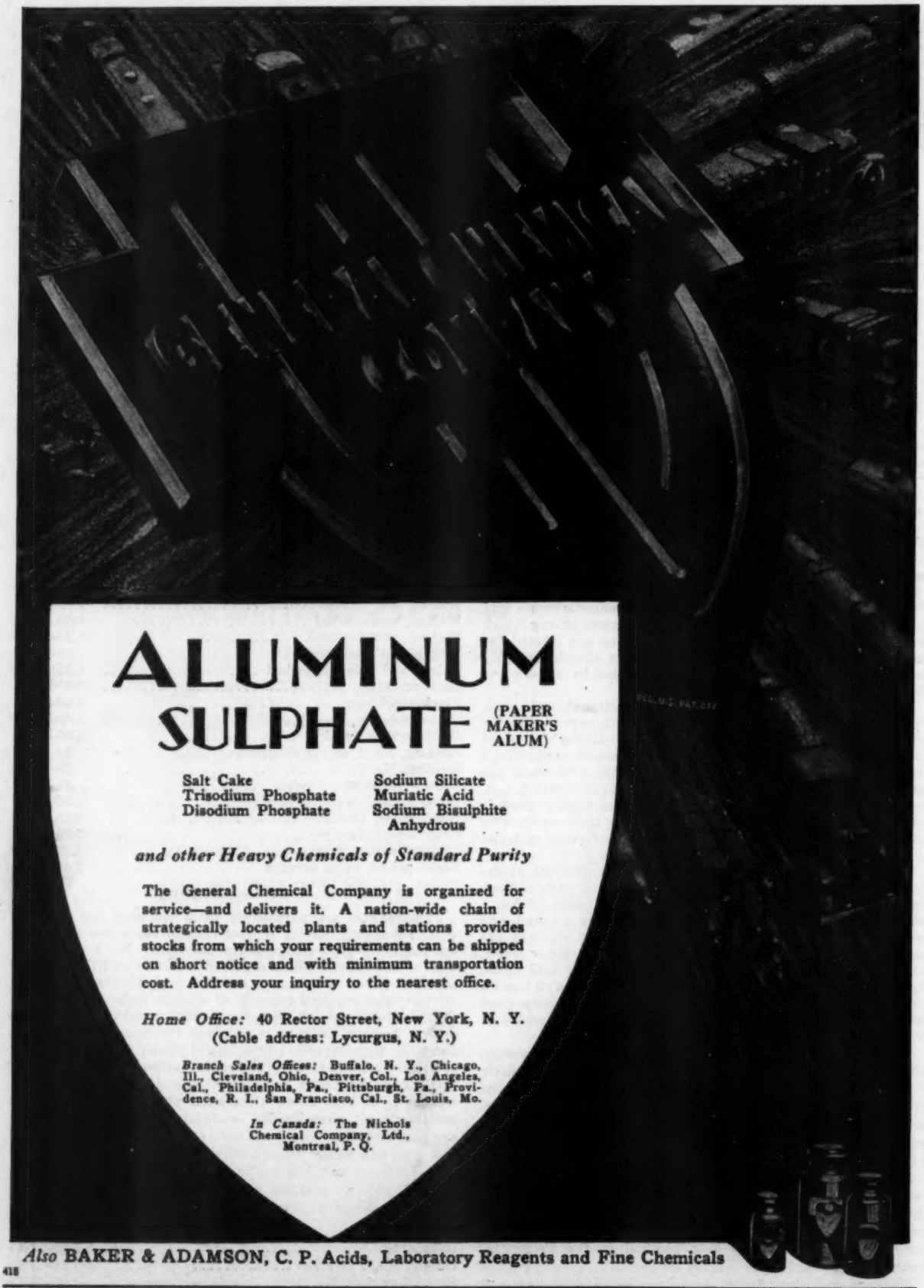
Rope and Bagging

Papermakers are purchasing little old rope and bagging while apparently having limited need of these raw materials, and market prices remain on the easy side. No. 1 old manila rope of domestic origin is reported available at 1.75 cents per pound at points of shipment, and it is probable that some supply has been acquired recently at slightly under this level although dealers assert they are holding stocks at this price basis. Foreign old rope is on about the same price level as domestic, with importers reporting difficulty in buying aboard at prices enabling them to sell at prevailing market rates.

Old bagging prices have eased and demand from papermakers is at best slow. Occasional purchases are recorded but they most often involve small lots, and buyers evidently are acquiring the limited amounts of bagging desired at their own prices if within reason. No. 1 scrap bagging is around 1.10 cents a pound, No. 1 gunny 1.30 cents, and roofing bagging 50 cents per hundred pounds at points of shipment.

F. o. b. shipping point and ex dock New York quotations follows:

Gunny, No. 1 domestic	1.25– 1.35
Gunny, No. 1 foreign	1.25– 1.35
Scrap bagging, No. 1	1.05– 1.15



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Branch Sales Offices: Buffalo, N. Y., Chicago, Ill., Cleveland, Ohio, Denver, Col., Los Angeles, Cal., Philadelphia, Pa., Pittsburgh, Pa., Providence, R. I., San Francisco, Cal., St. Louis, Mo.

In Canada: The Nichols Chemical Company, Ltd., Montreal, P. Q.

Also BAKER & ADAMSON, C. P. Acids, Laboratory Reagents and Fine Chemicals

418

Roofing bagging	.45– .55
Wool tares, heavy	1.30– 1.40
Wool tares, light	1.20– 1.30
Manila rope, No. 1 foreign	1.50– 1.75
Manila rope, No. 1 domestic	1.50– 1.75
Sisal strings	1.25– 1.50
Mixed strings	.65– .75

Old Paper

While demand for waste paper is well below what can be called normal, paper and board mills are buying this material in perhaps better volume than other raw stock, which, together with a restricted supply reaching the market, is holding up prices on a fairly steady level. However, the tendency at the moment is rather downward, as consumers have let down in their purchases to some extent in the last few days while presumably having covered their needs for a time by recent commitments. Shavings of most kinds are selling moderately well and at maintained prices, No. 1 hard white fetching 2.10 to 2.50 cents per pound and No. 1 soft white 1.90 to 2.25 cents f. o. b. shipping points. Folded news is steady in demand and value, with the eastern market basis about 40 cents per hundred pounds f. o. b. New York, and prices in the Middle West a couple of dollars a ton above this. No. 1 mixed paper is selling at 30 to 40 cents a hundred, heavy book stock at around 70 cents, crumpled book stock at 55 cents, and old No. 1 kraft paper at 1.15 cents a pound.

The following are quotations f. o. b. shipping points:

	New York and Chicago
Hard white shavings, No. 1	2.10– 2.50
Hard white shavings, No. 2	1.90– 2.15
Soft white shavings	1.90– 2.25
Colored shavings	.50– .60
Heavy book, No. 1	.65– .75
Crumpled book, No. 1	.50– .60
Ledger stock	.60– 1.00
Kraft, No. 1	1.10– 1.20
New kraft cuttings	1.50– 1.65
White blank news	1.50– 1.60
Manilas, No. 1	.55– .65
Manilas, container	.40– .50
Folded news	.40– .50
Sulphite mill wrappings	.50– .60
Old corrugated boxes	.40– .50
New corrugated box cuttings	.45– .55
Mixed paper, No. 1	.30– .40
Common paper	.25– .30

Pulpwood

Reports from cutting districts tell of limited trade activity in pulpwood, and business in the open market is of small importance at present. Most pulp manufacturers apparently have their requirements filled under prevailing market circumstances and are little disposed to augment their wood supplies. Prices are rather on the soft side although no actual changes of note are reported.

Mechanical Pulp

Dealers and mill agents say that a fair demand exists for mechanical wood pulp. Consumers are buying in a reserved manner, seldom aiming to accomplish more than to satisfy current needs, yet sales are moderately numerous and in the aggregate involve a fairly sizeable tonnage of groundwood. Prices are adhering to about last-noted levels although from all indications being on the soft side. Such domestic groundwood as is being disposed of to transient buyers is reported bringing around $26 per ton f. o. b. pulp mills, depending on the air dry test and the freight to consuming centers, while Canadian groundwood is said to be offered at $23 to slightly higher at shipping points or in the vicinity of $30 to $32 a ton delivered U. S. paper mills.

Production of mechanical pulp in the United States in August amounted to 56,965 net tons, compared with 66,428 tons produced in the preceding month by identical mills, according to the American Paper and Pulp Association. Stocks at producing mills at the end of August totaled 59,432 tons, against 67,584 tons a month earlier.

AMIJEL

AMIJEL is not an ordinary beater starch—it is a specially processed, pure gelatinized starch—ready for use. Does not have to be cooked. Just add in dry form to the beater.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York City

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SODA ASH
CAUSTIC SODA
Liquid Chlorine

Contract or Spot Delivery
In tank cars and multiple unit cars.
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Grind calender rolls this accurate, low-cost way!

KEEPING calender rolls free from blemishes is made easier with Oakite Grinding Compound. Its high lubricating and cooling qualities permit fast, accurate work. Wheels are kept free-cutting . . . loading is retarded.

Leading mills the country over also find in Oakite materials the safest, most economical means of washing felts, cleaning Fourdrinier wires and taking care of all paper mill cleaning work.

Talk over with our nearby Service Man the many ways in which Oakite materials can help you save money. A post card to us brings him to your mill. No obligation.

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Industrial Cleaning Materials and Methods

STANDARD BLEACHING POWDER

Liquid Chlorine

Single Unit Tank Cars 150-Lb. Cylinders

Multi-Unit Tank Cars (1-Ton Containers)

Commercial Sulphate of Alumina

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High quality Casein made under strict laboratory control. Excellent solubility. Satisfactory viscosity. Write for sample and quotations.

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New York City - Chicago - Boston - Philadelphia - Pittsburgh - Syracuse

Chemical Pulp

There is not a great deal of demand for domestic wood pulp. A certain amount of routine buying is proceeding day by day but consumers appear to have their requirements provided for in most cases and are entering the market for additional supplies only in a spasmodic way. In fact, it is stated that open-market or transient business in pulp is of far less than normal tonnage and that orders for spot shipments are rather few and far between. Consequently most of the current movement of supplies is against contracts, and it is somewhat difficult to ascertain what market prices actually are. Bleached soda pulp prices have been reduced to where offerings are now being freely made by producers at 2.75 cents a pound delivered paper mills. West coast bleached sulphite has been reported sold at as low as 2.35 cents a pound ex dock Atlantic seaboard and possibly at less in very exceptional instances, while news grade unbleached sulphite is about 2 cents a pound at pulp plants.

Mills in the United States produced a total of 94,331 net tons of chemical pulp during August, contrasted with 93,676 tons for identical mills in July, according to statistics compiled by the American Paper and Pulp Association. Stocks at producing mills at the end of August amounted to 19,248 tons, against 19,637 tons a month before.

Quotations f. o. b. pulp mills are as follows:

Bleached sulphite	2.35– 4.50
Easy bleaching sulphite	2.20– 2.40
Unbleached sulphite, No. 1 strong (news grade)	2.00– 2.25
Unbleached sulphite, No. 1 book	2.15– 2.30
Soda pulp bleached (delivered)	2.60– 2.75
Mitscherlich, unbleached	2.40– 2.60
Kraft	1.80– 2.50
Screenings, refined	(Nominal)

Chemicals

Prices of casein have firmed, and producers of the domestic product now are quoting 7 cents a pounds for the standard ground article and 7.50 cents for finely ground. Imported casein is on a price range of 8.50 to 9.50 cents per pound. Caustic soda and soda ash quotations are holding to schedules, with no change recorded, and bleaching powder prices are unaltered in a quiet market. Rosin prices are slightly lower.

Average quotations are as follows:

Alum, lump ammonia	3.50– 3.75
Alum, lump starch	3.75– 4.00
Blanc fixe, powered	3.75– 4.00
Bleaching powder	1.75– 2.00
Brimstone (long ton, at mine)	18.00–20.00
Casein (duty paid)	7.50– 9.50
Caustic soda, solid, spot delivery	2.50– 2.55
China clay, domestic washed	7.00–11.00
China clay, foreign	13.00–21.00
Rosin	3.85– 3.90
Satin white	2.00– 2.25
Soda ash, 58 per cent light (bags)	1.15– 1.25
Starch, papermaker's, in bags	2.67–
Talc (ton)	16.00–18.00

Evaders of Duty on Paper

An accumulation of important cases involving efforts of importers to escape the payment of proper duties is reported in a letter from the Import Committee of the American Paper Industry to its subscribers. A total of 84 new cases is reported for the week, involving fancy, printing, book and many other grades of paper. Among the cases reported are the following:

Seven importations of lace paper, paper napkins, table cloths, etc., classified for duty at rates higher than those claimed by importers.

Paper classified as surface coated paper at 5 cents per pound and 15 per cent claimed by importer to be dutiable at 5 per cent as basic photographic paper.

Importation of creped kraft paper classified for duty at 6 cents per pound and 15 per cent, claimed dutiable as wrapping paper at 30 per cent.

East is East
and West is West
but the Test Tube
brings them Together

Trade expansion and swift communication are fast uniting East and West. And along with them have come the right Protective Papers which enable East and West to enjoy the good things of the earth, no matter where they grow!

This is the great opportunity of KVP Laboratory Experts: by research, experiment and scientific testing, they have come to be important factors in spreading the gospel of good food—not only supplying the Paper which carries any product, safely anywhere, but by anticipating the need. Because of them, many foods which had only sectional markets are now in universal use.

Submit any problem to KVP Scientific testing; you will receive a prompt, authoritative suggestion.

KALAMAZOO VEGETABLE PARCHMENT COMPANY
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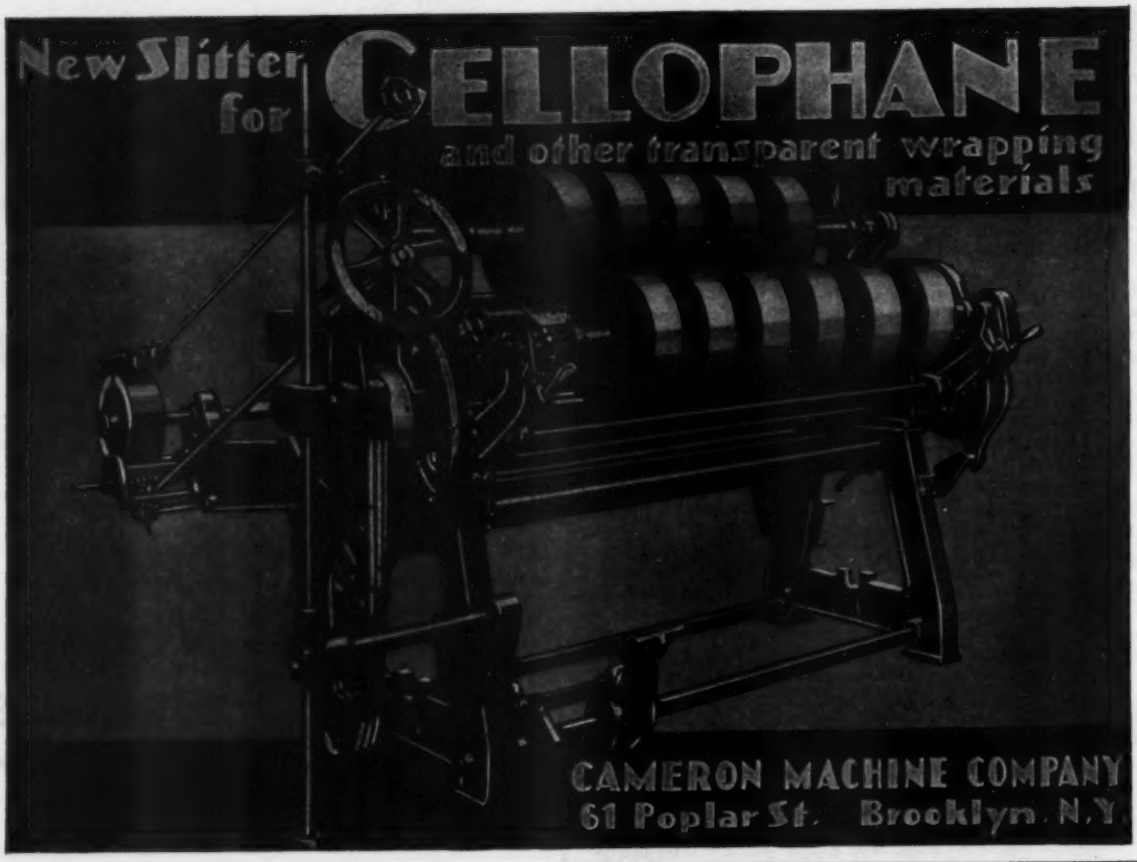
PAPERS


New Slitter for CELLOPHANE
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CAMERON MACHINE COMPANY
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Triple Shaft Toilet Winder

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Paper Converting Equipment

Machinery from Hudson-Sharp is in use in converting mills throughout the United States with installations in many foreign mills.

Standard designs are obtainable for general purposes but special purpose machines will be designed by our engineers to efficiently meet any special mechanical problem at hand.

Circulars and catalogue of our line are obtainable upon application.

Napkin Embosser and Printer

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Manufacturers and Designers of Special Machinery

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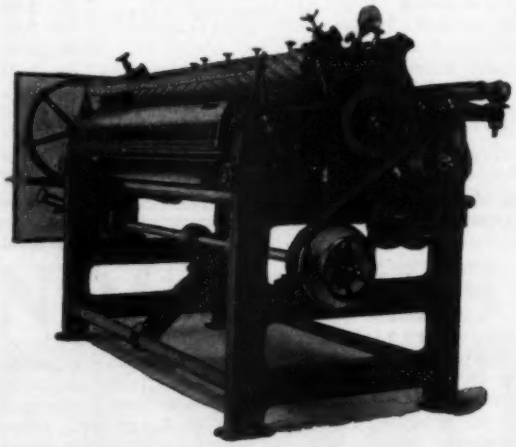

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SINGLE, DUPLEX AND DIAGONAL PAPER CUTTERS, CUTTER KNIVES, PATENT TOP SLITTERS

New Papers

Writing—	
White rag	15– 40
White sulphite	7– 30
Colored rag	14– 40
Colored sulphite	7– 30
Ledger—	
White rag	15– 40
White sulphite	10– 30
Colored sulphite	10– 30
Colored rag	14– 40
Bond—	
White rag	15– 40
White sulphite	7– 30
Colored sulphite	7– 30
Colored rag	14– 40
Book—	
No. 1 S. & S. C.	5.25– 8.00
Machine finished	5.00– 8.00
English finish	5.00– 8.00
Coated and enameled	6.75–10.00
Lithograph, M. F.	7.00–11.50
Newsprint—	
Rolls, contract, per ton, delivered New York	57.00–
Rolls, transient, per ton, delivered New York	57.00–
Sheets, per ton, delivered New York	62.00–
Sideruns, per ton, delivered New York	42.00–46.00
Cover stock—	
Coated, both sides	–10.25
Coated, one side	–10.15
Tissue—	
No. 1 white, 20x30	.65– .70
No. 2 white, 40x36	.55– .65
No. 1 manila, 24x36	.55– .65
Kraft	.65– .70
Wrapping—	
No. 1 kraft	4.25– 5.00
No. 2 kraft	3.25– 3.75
Southern kraft	3.00– 3.50

Boards—	New York and Chicago
News	25.00–30.00
Straw	35.00–40.00
Plain chip	25.00–30.00
White coated chip	42.50–45.00
Manila coated chip	35.00–40.00
Binders' board	60.00–65.00

G. E. Relief Plan Accepted

An unemployment relief plan recently submitted to the hourly-rated and piecework employees of the General Electric Co., Schenectady, N. Y., has been accepted by an almost unanimous vote.

The plan provides that the work will be divided so there will be no further layoffs for lack of work between November 1, 1931 and April 30, 1932, without compensation, and that all those on the pay-roll November 1, will receive during this period not less than the equivalent of one-half their average weekly earnings for full time, but in no case more than an average of $15 per week. If actual earnings are above that average, however, the employee is to receive his actual earnings.

Proposed Specification for Government Paper Requirements Available for Study and Comment

The Federal Specifications Board, U. S. Bureau of Standards, Washington, D. C., has prepared a proposed revision of Federal Specification No. 394 for paper, covering general specifications and methods of physical tests and chemical analyses.

These specifications in the formative stage, are submitted to representative manufacturers for their comment and criticism, and the Board is glad to receive any suggestions as to changes which may be thought desirable in the specification. Such comments or criticisms must be in their hands not later than January 5, 1932, if they are to receive attention of the technical committee considering the subject.

Binders Board Conference Defers Opinion

On October 14, in New York City, a general conference of manufacturers, distributors and users of binders board was held to consider a proposed commercial standard for this product and adjust it to the mutual satisfaction of all concerned.

A concord of opinion was not reached at this meeting and the conference appointed a joint committee of binders board manufacturers and bookbinders. Following development of a satisfactory specification by this committee, another general conference will be arranged for the consideration and approval of the standard.

Glatfelter Co. Entertains Distributors

P. H. Glatfelter Co., Spring Grove, Pa., entertained the distributors of its Monoplane Bond at their first annual meeting, October 6 and 7.

The business features of the meeting included an educational trip through the Glatfelter plant to witness the manufacture of Monoplane, and a business session which was devoted to the policies of merchandising and the advertising program for the ensuing year.

This company is noted for its hospitality, and the visitors were royally entertained in sightseeing trips and varied social functions.

Tribute to Edison Suggested by Paper Mill Official

To honor the memory of Thomas Alva Edison, President Hoover asked that the people of the nation turn off all lights for one minute on Wednesday evening, October 21.

It has become known that the suggestion for this tribute was made to President Hoover by Colonel Maxwell Howard, president of the Aetna Paper Co., Dayton, Ohio, also the Howard Paper Co., Urbana, Ohio and the Maxwell Paper Co., Franklin, Ohio.

Alexander Thomson Made President of Champion Coated Paper Co.

Alexander Thomson, son of the late Peter G. Thomson was elected president of The Champion Coated Paper Co., Hamilton, Ohio, on October 7, to fill the vacancy caused by the death of his father. Mr. Thomson has been vice-president and has had the management of the sales department for several years.

Mr. Thomson was also made chairman of the board of the Champion Fibre Co., Canton, N. C., a subsidiary company, in which capacity he also succeeds his late father.

CHEMICAL AND MECHANICAL PULP

BLEACHED SULPHITE

Kellner-Partington Paper Pulp Co. Ltd.
Sarpsborg, Norway—Edsvalla, Sweden
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Cellulosefabriks A.—G., Bratislava, Cecho-Slovakei
Bergvik och Ala Nya Aktiebolag, Söderhamm, Sweden
Svanö Aktiebolag, Svanö, Sweden
Aktieselskabet Greaker Cellulosefabrik, Greaker Norway

KRAFT PULP

Nensjö Cellulosa A.—B., Sprängsviken, Sweden
Bergvik och Ala Nya Aktiebolag, Söderhamm, Sweden
Munksunds Aktiebolag, Munksund, Sweden
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WAYAGAMACK KRAFT PULP

CANADIAN KRAFT, LTD.

THREE RIVERS, CANADA

Sulphite Pulp—Paper and Board
J. & J. Rogers Co.
Ausable Forks, N. Y.

Seagull Bleached Soda Pulp
Canadian Cellulose Co.
Cornwall, Ont., Canada

Selling Agents **THE PULP & PAPER TRADING CO.**
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QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

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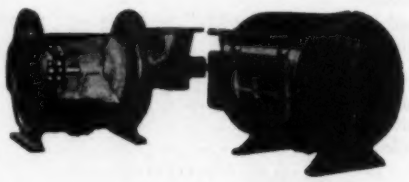


In Sweden:—

"REPEATS" Prove RESULTS
8 Repeats for 22 "Trimbeys" in 11 Months

AGAIN WE OFFER:—

We Will—
Install on Trial, in ANY Mill, on ANY Kind of Pulp, for Comparative Tests Against ANY Centrifugal Screen.

And—Cheerfully Abide by the Results.

TRIMBEY MACHINE WORKS
GLENS FALLS, N. Y.
Also "Made in Canada"

WEIGHT REGULATORS CONSISTENCY REGULATORS
METERING SYSTEMS

EXPORTS

Official statistics compiled and issued by the U. S. Department of Commerce in Washington show a further decrease, in point of value, of exports of paper from the United States in August as compared with previous months. Total exportations of paper of all kinds during August reached a value of $1,633,127, contrasted with shipments of a value of $1,932,910 in the preceding month, and $2,460,663 in the same month of 1930. Exports during the first eight months of the current year aggregated in value $15,691,902, registering an appreciable decline as compared with shipments valued at $21,594,719 in the corresponding period of last year.

Newsprint exports in August were 1,584,676 pounds, valued at $49,272, against 1,536,712 pounds of a value of $65,993 exported in the similar month of 1930. Uncoated book paper shipments out of the country in August were valued at $68,469, compared with $172,957 in the same month a year ago. Wrapping paper exports reached a value of $106,056 in August, or only about half of the value of shipments in the similar month last year amounting to $215,826, while writing paper exports declined from $159,578 worth in August, 1930, to $88,239 in August this year. Foreign shipments of paper bags were valued at $59,983 in August, against $83,269 a year ago, and exports of paper boxes and cartons were of a declared value of $83,024, against $115,395 in August, 1930. The one item showing an increase this year over last year was overissued newspapers, exports of which last August were valued at $138,122, contrasted with $100,787 in the same month of 1930.

Exports of boxboard, including paperboard and strawboard, in August were valued at $87,739, compared with $117,730 last year, and of other paperboard $96,854, against $107,659 in August a year ago.

IMPORTS

Wood Pulp

Just when market prices of imported wood pulp were resting steadily on what were regarded as bottom levels for the decline and were developing firmness of tone, along came the upset in foreign exchange when England and the Scandinavian countries went off the gold standard, and the result was a further lowering of pulp quotations on a dollar basis. This decline in market rates had nothing to do with the intrinsic value of wood pulp, but was made necessary in the adjustment of money values when Scandinavian exchanges were placed on an altered basis. The immediate effect in the pulp market was to reduce prices of imported bleached sulphite about $5 per ton, of unbleached sulphite some $2 or $3 a ton, and of kraft pulp $1 or $2 per ton.

The lower prices apparently have led to fairly substantial buying by American pulp consumers; at any rate, reports without much exception say that October was a fairly active month for the pulp market; that while buyers continued to exercise caution in entering commitments, demand underwent noticeable expansion and that sales of moderately large tonnage, in the aggregate, were made. Most of the buying has been for shipments from abroad up until the approaching closed navigation season, although some consumers went farther ahead and purchased some pulp for delivery next spring and later in 1932.

Sulphite producers in Europe are now discussing additional curtailment, and it would not be surprising to many in the trade in the United States if it were decided to lop off another percentage of the output of such pulp until such time as the market can absorb existing supplies and the pegged production of the European sulphite mills. Quotations from abroad on chemical pulps generally, and on kraft pulp in particular, have steadied following the decline which accompanied the debasement in exchange, and producers in Europe are reported displaying unwillingness to sell pulp at prevailing market levels very far ahead. In fact, some are said to be refusing orders for shipment later than the end of this year.

Kraft pulp is the firmest item in the market, and quotations on standard Swedish prime kraft are 1.50 to 1.55 cents a pound ex dock American Atlantic seaboard, with some grades of kraft priced up around 1.70 cents. Strong sulphite is 1.75 cents upward per pound ex dock, according to quality, while foreign bleached sulphite is variously quoted from a low of about 2.25 cents for prime quality up to 3.50 cents and perhaps higher for certain mill brands. Scandinavian groundwood is reported available at $24 per short ton for dry and $23 for moist pulp ex dock American Atlantic ports.

Imports of chemical wood pulp into the United States in August amounted to 103,154 long tons, of a declared value of $4,470,948, against 105,759 tons of a value of $4,438,547 imported in the preceding month, and bringing the total for the first eight months of this year up to 772,873 tons or a monthly average of 96,609 tons, compared with 893,238 tons or a monthly average of 111,654 tons in the corresponding period of 1930, these figures being official as compiled by the U. S. Department of Commerce in Washington.

Groundwood imports in August were 12,887 long tons, valued at $309,250, contrasted with 15,826 tons of a value of $430,374 in the preceding month, and making a total for the eight months of this year of 112,821 tons, against 169,279 tons in the same time a year ago.

Current market quotations ex dock New York, and receipts at the port of New York during October, 1931, these data being taken from manifests of vessels reaching that port last month, follow:

Bleached sulphite, No. 1	2.25– 3.75
Unbleached sulphite, strong No. 1	1.75– 2.00
Unbleached sulphite, No. 2	1.65– 1.80
Easy bleaching sulphite	1.90– 2.15
Mitscherlich, unbleached, genuine	2.25– 2.50
Mitscherlich, unbleached, ordinary	1.80– 2.00
Kraft, standard Swedish	1.50– 1.75
Groundwood, per ton (dry)	24.00–26.00

Castle & Overton, Inc., 2,278 bls. from Hamburg, 2,685 Bremen and 1,034 Gothenburg; Irving Trust Co., 1,175 bls. from Bremen; M. Gottesman & Co., 4,525 bls. from Gothenburg; E. M. Sergeant Co., 1,048 bls. from Gothenburg; Jay Madden Corp., 124 bls. from Gothenburg; Johaneson, Wales & Sparre, 7,847 bls. from Sundsvall and 513 Hamburg; Lagerloef Trading Co., 267 bls. from Hamburg, 306 Wiborg, 670 Kotka and 1,450 Gothenburg; Bulkley, Dunton & Co., 8,250 bls. from Soderhamn, 750 Sundsvall and 1,260 Gothenburg; Parsons & Whittemore, 150 bls. from Sundsvall and 720 Gothenburg; J. Andersen & Co., 300 bls. from Muksund, 1,059 Oslo, 3,150 Hernosand and 250 Gothenburg; E. J. Keller Co., Inc., 1,370 bls. from Hamburg; Russell McCandless, 280 bls. from Gothenburg; Atterbury Bros., Inc., 499 bls. from Oslo; Chemical Bank, 3,400 bls. from Oslo; Price & Pierce, Ltd., 900 bls. from Hernosand and 1,800 Wallvik; Pagel, Horton & Co., 5,000 bls. from Gefle; Stora Kopparberg Corp., 750 bls. from Gefle; Bankers Trust Co., 3,500 bls. from Iggesund; Guaranty Trust Co., 610 bls. from Gothenburg; Boyd, Weir & Sewell, Inc., 900 bls. from Hamburg; Order, 6,450 bls. from Hernosand, 160 Oslo, 5,500 Norrsundet, 2,375 Iggesund and 850 Rotterdam. Pulpwood—Amtorg Trading Corp., 12,683 cords from Leningrad; G. S. Kerr, 1,250 cords from Shippigan, N. B., and 1,300 cords from Richibucto, N. B.

Paper Stock

Imports of papermaking rags into the United States continue on a small scale, and during August amounted to 11,-

A BIG JOB ABLY HANDLED

Photograph shows 30 roll Back Stand, with Duplex Cutter and Lay Boy. Cutter equipped with seven pairs of slitters, Lay Boy arranged to lay six piles. Each roll weighs 2000 pounds. Moore & White installation. Further information upon request.

THE MOORE & WHITE COMPANY

Paper Mill Machinery

FIFTEENTH ST. AND LEHIGH AVE. PHILADELPHIA, PA.

THE GREEKS HAD A WORD FOR IT—
THE ROMANS HAD A WORD FOR IT—
WE HAVE A WORD FOR IT—

TENAX

THE BETTER FELT

If interested in felt economy, TRY LOCKPORT'S **TENAX**
TENAX in all styles for all purposes

LOCKPORT FELT COMPANY

NEWFANE, NEW YORK

207,113 pounds of a declared value of $155,327, compared with 11,394,108 pounds of a value of $157,187 in the preceding month, according to official statistics compiled by the U. S. Department of Commerce. The total during the first eight months of this year was 84,943,427 pounds, valued at $1,162,287, contrasted with 224,525,709 pounds of a value of $4,605,896 in the similar period last year. Imports of all other paper stock excepting wood pulp in the first eight months of the current year totaled 75,407,716 pounds, valued at $1,102,999, against 178,984,564 pounds of a value of $2,404,534 in the same period a year ago.

Paper stock importations were light during October, judging from arrivals through the port of New York. Receipts of papermaking materials of all kinds at that port last month, these data being compiled from the manifests of steamers reaching New York during the month and therefore unofficial, were as follows:

Old Rope—International Purchasing Co., 326 coils; Brown Bros. & Co., 46 bls. and 118 coils; Banca Commerciale Italiana Trust Co., 78 coils; Furness, Withy & Co., 67 bls.

Old Bagging—Darmstadt, Scott & Courtney, 452 bls.; Bank of New York & Trust Co., 177 bls.; Irving Trust Co., 180 bls.; E. J. Keller Co., Inc., 123 bls.; Banca Commerciale Italiana Trust Co., 66 bls.; Chemical Bank, 96 bls.; S. Birkenstein & Sons, 90 bls.; Order, 38 bls.

Rags—Castle & Overton, Inc., 361 bls.; Jaffe Products Co., 5 bls.; Darmstadt, Scott & Courtney, 142 bls.; J. Cohen & Son, 24 bls.; Victor Galaup, Inc., 233 bls.; H. W. T. Mali & Co., 125 bls.; Harmon G. Lichtenstein, 50 bls.; E. J. Keller Co., Inc., 226 bls.; S. Birkenstein & Sons, 130 bls.; C. Nelson, 8 bls.; Leshner Corp., 2 bls.; J. Reiss & Co. 14 bls.; L. Rosenbaum, 19 bls.; I. Hinerfeld, 8 bls.; Daniel M. Hicks, Inc., 44 bls.; Walker Goulard Plehn Co., 95 bls.; Chemical Bank, 62 bls.; International Trust Co., 50 bls.; Banca Commerciale Italiana Trust Co., 79 bls.; Irving Trust Co., 77 bls.; Bank of New York & Trust Co., 166 bls.; Marine Midland Trust Co., 23 bls.; Amtorg Trading Corp., 1,096 bls.; Order, 475 bls.

Miscellaneous Paper Stock—Brown Bros. & Co., 121 bls.; J. Cohen & Son, 15 bls.; T. D. Downing & Co., 65 bls.; Bank of New York & Trust Co., 177 bls.; Baring Bros. & Co., 131 bls.; S. Birkenstein & Sons, 126 bls.; Milton Snedeker Corp., 146 bls.; Darmstadt, Scott & Courtney, 86 bls.; Order, 340 bls.

Paper

Official U. S. Department of Commerce figures show that imports of paper into the United States fell to a new low level, in point of value, during August last, when total importations were valued at $9,524,134, compared with $10,246,881 worth of paper imported in the preceding month and $10,889,139 in the same month last year. Imports during the first eight months of this year reached an aggregate value of $85,866,718, contrasted with $98,591,166 in the corresponding period of 1930.

Paper imports last month continued light, taking the receipts through the port of New York as a criterion. Arrivals of all kinds of paper through that port in October, 1931, these data being taken from manifests of arriving vessels and therefore unofficial, were as follows:

Printing—Jay Madden Corp., 101 reels from Hamburg; Perkins-Goodwin Corp., 685 reels from Bremen and 948 reels Hamburg; Martin & Bechtold, 39 cs. from Hamburg; Lunham & Reeve, 370 reels and 2 cs. from Hamburg and 372 reels Kotka; Baldwin Paper Co., 235 reels from Hamburg; Stora Kopparberg Corp., 114 reels from Gothenburg; E. Dietzgen & Co., 5 cs. from Havre, 18 cs. Hamburg and 89 cs. Rotterdam; Keuffel & Esser Co., 5 cs. from Havre; J. E. Bernard & Co., 148 reels from Rotterdam; C. Steiner, 4 cs. from Bremen; W. H. Bell, 5,023 rolls from Liverpool, N. S.; Bank of Montreal, 3,043 rolls from Corner Brook; P. Puttmann, 5 cs. from Antwerp; Order, 2,700 reels from Bremen, 619 reels Hamburg and 272 rolls Oslo.

Wrapping—Marine Midland Trust Co., 74 reels from Bremen; J. P. Heffernan Paper Co., 50 bls. from Bilbao; Borregaard Co., 231 reels and 5 cs. from Gothenburg; P. H. Petry & Co., 62 reels from Gothenburg; Walker Goulard Plehn Co., 50 bls. from Hamburg; Agfa Ansco, 4 reels from Hamburg; Robert Wilson Paper Corp., 5 cs. from Glasgow; Irving Trust Co., 20 cs. from Marseilles; Standard Products Corp., 14 cs. from Antwerp; F. C. Strype, 3 cs. from Antwerp; Wilkinson, Grey & Co., 23 cs. from Gothenburg; F. L. Kraemer & Co., 376 bls. from Gothenburg.

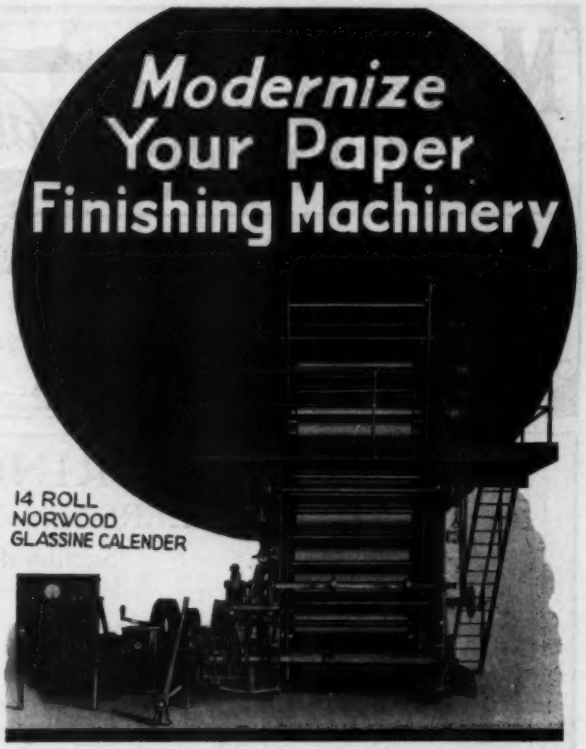
Cigarette—P. J. Schweitzer, Inc., 21 cs. from Marseilles; G. A. Henshaw & Son, 90 cs. from Southampton and 43 cs. Havre; De Mauduit Paper Corp., 47 cs. from Havre and 2,359 cs. from St. Nazaire; American Tobacco Co., 1,350 cs. from Havre and 400 cs. Bordeaux; Standard Products Corp., 242 cs. from Havre; M. Spiegel & Sons, 16 cs. from Hamburg and 130 cs. Genoa; C. L. Voorhees, 4 cs. from Genoa and 11 cs. Yokohama; Champagne Paper Corp., 648 cs. from Havre.

Writing—Distinctive Writing Paper Co., 19 cs. from Havre; Guibont Freres & Co., 7 cs. from Southampton and 9 cs. Havre.

Filter—H. Reeve Angel & Co., 115 cs. from Southampton and 25 cs. London; American Express Co., 4 cs. from Havre; C. Sleicher & Scholl Co., 6 cs. from Hamburg; E. Fougera & Co., 50 cs. from Southampton; A. Giese & Son, 13 bls. from Southampton; C. G. Euler, 30 bls. from Bordeaux.

Tissue—Guaranty Trust Co., 4 cs. from Hamburg; W. J. Byrnes & Co., 4 cs. from Southampton.

Drawing—J. Henschel & Co., 8 cs. from Hamburg; Favor, Ruhl



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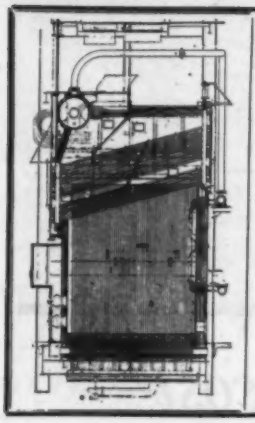

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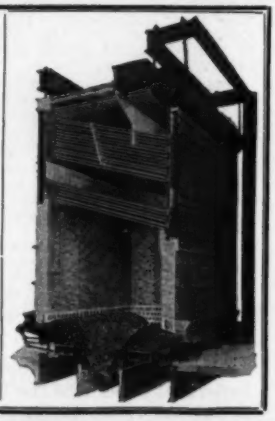

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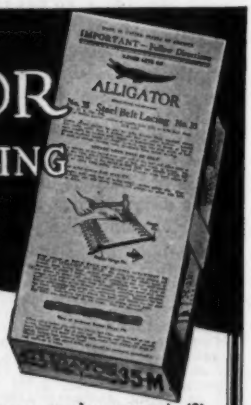

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"NEVER LETS GO"

& Co., 3 cs. from Havre; H. Reeve Angel & Co., 5 cs. from London; G. Haas, 4 cs. from London; Order, 38 cs. from Hamburg.

Photo—Globe Shipping Co., 65 cs. from Bremen; P. C. Zuhlke, 35 cs. from Antwerp; J. J. Gavin & Co., 6 cs. from Southampton; Gevaert Co. of America, 86 cs. from Antwerp; J. H. Schroder Banking Corp., 11 cs. from Bremen.

Hanging—F. J. Emmerich & Co., 4 bls. from Liverpool; R. F. Downing & Co., 3 cs. from Havre, 2 cs. Southampton, 16 cs. Yokohama, and 15 bls. Kobe; Irving Trust Co., 7 cs. from Hamburg; F. A. Binder, 2 bls. from Bremen; Guaranty Trust Co., 13 cs. from Hamburg; Bush Service Corp., 2 cs. from Southampton; Order, 6 bls. from London.

Cover—Winter, Wolff & Co., 5 cs. from Antwerp and 146 cs. Rotterdam; Hensel, Bruckman & Lorbacher, 63 cs. from Hamburg; Order, 153 cs. from Rotterdam.

Board—H. Fuchs & Son, 37 bls. from Gothenburg; Lowy & Lowy, 10 bls. from Gothenburg; Chatham Phenix National Bank, 22 bls. from Gothenburg; Robert Wilson Paper Corp., 25 rolls from Rotterdam; Order, 56 rolls from Gothenburg and 23 bls. Hamburg.

Miscellaneous—B. F. Drakenfeld & Co., 24 cs. from Liverpool; Van Oppen & Co., 21 cs. from Genoa; Martuaco Stamp Co., 16 cs. from Liverpool; Keller-Dorian Paper Co., 9 cs. from Havre and 14 cs. Southampton; Japan Paper Co., 2 cs. from Gothenburg, 8 cs. Southampton and 7 cs. Kobe; Hensel, Bruckman & Lorbacher, 39 cs. from Hamburg; D. S. Walton & Co., 7 cs. from Mayaguez; C. Breuning, 153 reels from Rotterdam; A. Klipstein & Co., 3 cs. from Rotterdam; Steiner Paper Corp., 3 cs. from Rotterdam; J. J. Shore & Co., 27 cs. from Rotterdam; O. A. Dietz, 6 cs. from Havre; R. Cummings, 6 cs. from Havre; D. F. Young, 5 cs. from London; F. Murray Hill, Inc., 11 cs. from Bremen; Whitfield Paper Works, 2 cs. from Kobe; Frey Bros., 20 cs. from Rotterdam; Heemsoth & Basse, 6 cs. from Bremen; Dingelstedt & Co., 11 cs. from Bremen; S. Gilbert, 15 cs. from Bremen; Rohner, Gehrig & Co., 9 bls. from Hamburg; T. N. Fairbanks, 2 cs. from Yokohama; Happel & McAvoy, 7 cs. from Hamburg; Meadows, Wye & Co., 4 cs. from London; W. A. Foster, 14 cs. from London; Chase National Bank, 8 cs. from Bremen; Phoenix Shipping Co., 5 cs. from Hamburg; Atlantic Forwarding Co., 8 cs. from Hamburg; Bush Service Corp., 8 cs. from Bremen; Globe Shipping Co., 5 cs. from Rotterdam and 40 cs. Bremen; American Express Co., 5 cs. from Hamburg; Weiss Forwarding Co., 3 cs. from Hamburg and 4 cs. Bremen; International Forwarding Co., 16 cs. from Antwerp.

Foreign Trade Opportunities

The following foreign trade opportunities are issued by the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce. Those interested are requested to communicate with the Bureau at its offices in Washington or New York or its branch offices in other cities, in every case mentioning the number of the inquiries referred to.

No. 54186—Tissue paper. Ponce, Porto Rico. Agency desired.

No. 54134—Condenser tissue paper. Tokio, Japan. Purchase desired.

No. 54081—Toilet paper rolls, M.F. and superwhite paper for printing purposes, bond paper, and poster paper. Havana, Cuba. Agency desired.

No. 54048—Rosin, in carload lots. Zlin, Czechoslovakia. Purchase desired.

No. 54215—Box covering paper, flint and glazed; glassine paper, wax paper, tissue paper for wrapping bread and for covering shoes packed in boxes, and tinfoil paper. Havana, Cuba. Agency desired.

No. 54302—Composition boards for partitions. Antofagasta, Chile. Purchase desired.

No. 54218—Overissue newspapers. Karachi, India. Purchase desired.

No. 54307—Overissue newspapers. Bombay, India. Purchase desired.

No. 54216—Toilet paper in rolls. Rio de Janeiro, Brazil. Agency desired.

No. 54273—Caustic soda. Copenhagen, Denmark. Agency desired.

No. 54349—Drawing paper, glossed an opaque, for draftsmen. Milan, Italy. Agency desired.

No. 54347—Embossing papers, imitation and genuine, gold, for shoe factories and for hat linings. Montreal, Canada. Agency and purchase desired.

No. 54345—Fiber wrapping paper for butchers. Toronto, Canada. Agency desired.

No. 54346—Lace paper, paper cups, and other paper specialties. Toronto, Canada. Agency desired.

No. 54342—Tissue fruit wrappers, and newsprint paper. Sao Paulo, Brazil. Agency desired.

No. 54344—Vulcanized fiber. Barcelona, Spain. Agency desired.

According to the Bureau of Mines, the collection of waste materials in this country exceeds a billion dollars annually.

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—Here is where Your Profits are!

Is it stretching things a bit far to say that your profits are not in the stock itself—but in the cost of moving it?

It isn't, because in the modern world, the ratio of operating costs to profits is always greater than the cost of raw materials proportionately . . . peculiarly true in paper and pulp mills, where the cost of moving stock is the largest red figure on your books.

Best seek your profits then, as many do, in lowered costs for moving stock. Frederick stock pumps actually take less power. They also give you freedom from breakdowns over a long period, and that, too, clips the cost and increases profits. *Send for list of Frederick users to check up on Frederick Claims, and get the details in our latest BULLETINS.*

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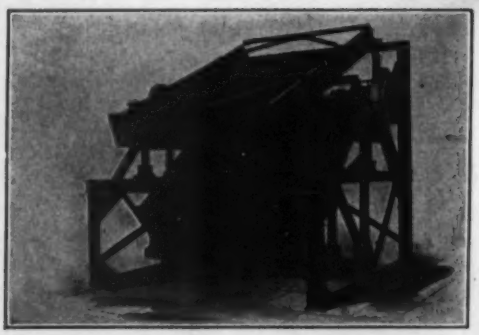
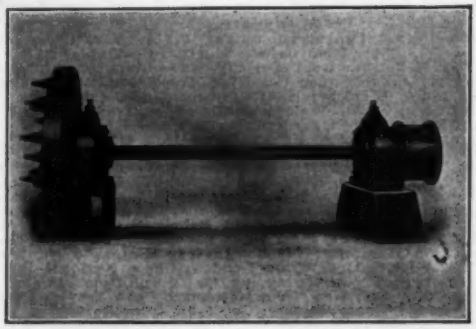
PRINGLE COMPANY





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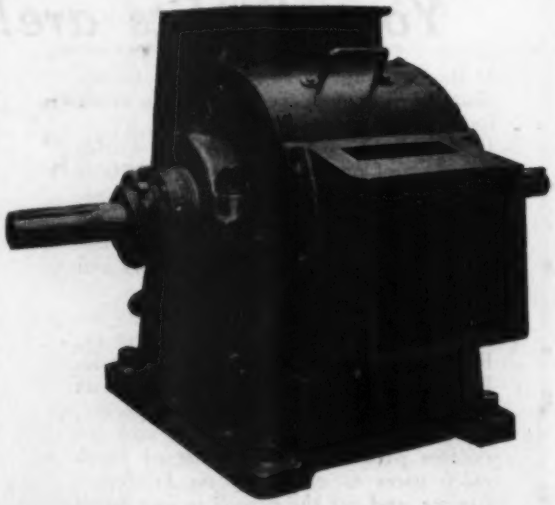

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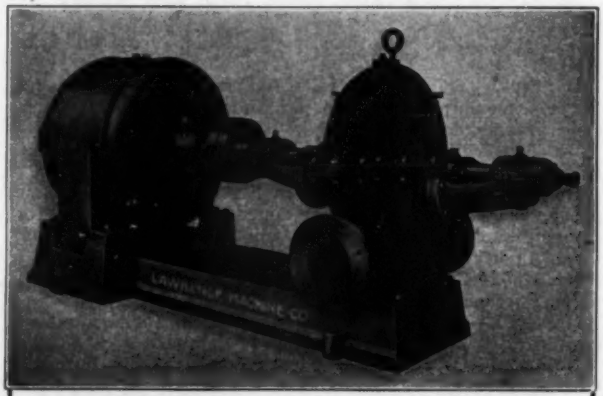

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Import Committee on Plea to Change Tariff Newsprint Definition

The Import Committee of the American Paper Industry has replied to the appeals of the American Newspaper Publishers Association before the Customs Service for a change in the so-called standard newsprint definition with a brief statement that the paper industry, as represented by the Import Committee, is willing to abide by the facts as to the chief use of paper as a basis for determining whether or not certain paper should be duty free as standard newsprint or dutiable as another grade. The publishers asked that the provision as to width of rolls be modified to allow free admission of 15 inch rolls, and that paper bulking 4½ points in thickness be classified as standard newsprint, with a tolerance of 1 per cent above this figure.

No formal brief has been filed by the Import Committee, but the following statement is made in reply to the request of the publishers for a modification of the definition:

"We submit that it was perfectly plain and apparent intent of The Congress, as expressed in paragraph 1672 of the Tariff Act of 1922 and repeated in paragraph 1772 of the Tariff Act of 1930, that paper chiefly used in printing the regular and ordinary editions of newspapers should be entitled to free entry, and that all other printing paper should be dutiable. This Congressional intent has been partly referred to by the Court in passing upon a somewhat similar question. Therefore, the burden is upon those who seek to procure the modification of the definition to produce facts which incontrovertibly show that the rulings of the Department are not sound in point of fact. Our position is and always has been that we will be bound entirely by what the facts disclose."

Paper Makers Chemical Corp. Consolidates with Hercules Powder Co.

The consolidation of Paper Makers Chemical Corporation with Hercules Powder Company was announced last month by Russell H. Dunham, president of the Hercules Powder Company. All of the properties of the Paper Makers Chemical Corporation except the Superior Pine Products Company which owns the Suwannee Forest in Georgia has been acquired by Hercules Powder Company.

Paper Makers Chemical Corporation, with headquarters at Kalamazoo, Michigan, and plants and offices in all parts of the country, is a large supplier of rosin size, coatings, alum, and other chemicals to the paper industry and is a manufacturer and jobber of a number of industrial chemicals. The concern will continue to operate under its own name and with its present organization which is headed by W. J. Lawrence, of Kalamazoo, president.

Hercules Powder Company is a large producer of explosives, naval stores, cellulose products, and chemical cotton. An international marketing organization, extensive research facilities, and an increased line of papermaking chemicals and materials are made available to Paper Makers Chemical Corporation through the consolidation.

Paper Makers Chemical Corporation has 15 plants in the United States and operates as subsidiaries Paper Makers Chemicals, Ltd., of Erith, England, and Vera Chemical Co., of Freeman, Ontario. Through the consolidation and affiliation of interests, it was stated by the president of the Hercules Powder Company, a wider choice of products can be offered to papermakers and the facilities of research and distribution be greatly enhanced.

At the second Packaging, Packing and Shipping Exposition to be held at the Palmer House, Chicago, March 7 to 12, 1932, every principal type of package and container, together with a variety of packaging, packing and shipping materials and methods will be displayed. The exposition will be staged in connection with a five-day Packaging Conference and Clinic which will be held at the Palmer House under the auspices of the American Management Association. The exposition, as well as the conference, will endeavor to emphasize the major economic and technical problems of packaging, packing and shipping.

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Are Those Who Progress Through Change - - - -

Old timers who followed the trail in earlier times laid down a precept all should heed on "keeping on the move toward better things".

A trial of Orr Felts would be a move in the right direction.

A few days longer wear than you have been accustomed to receiving would be decidedly worth while. More than a few mills now benefit from their adoption of this better, more serviceable brand of Felts.

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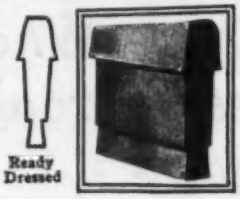
THE MOST ECONOMICAL FILLING THAT CAN BE PUT IN A MORTISE WHEEL



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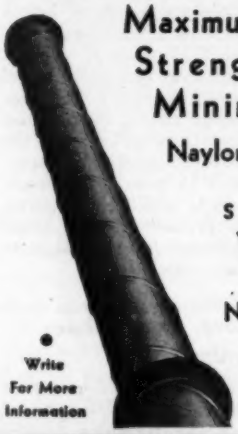

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Rolled Phosphor Bronze and Copper Plates for Rotary Screens

Sole Manufacturers of the **Union-Witham Screen Plate Vat and Fastener**

Pusey-Jones to Start Work Soon on Large Paper Machine

Announcement is made by the Pusey and Jones Corporation that it has closed a contract with the Champion Fibre Company, of Canton, N. C., to build the largest book papermaking machine ever built, at a cost understood to be between $450,000 and $500,000.

The machine will be the widest, largest, and fastest of its kind in the world. It will be 242 inches in width, operate up to 1,000 feet per minute and will produce up to 150 tons per day. The total shipping weight will be about 1,500 tons. Officials would not disclose the contract price, but it is said to be between $450,000 and $500,000.

The contract will enable the company to call back a considerable portion of its employees and will occupy the time of about 300 men from November 1 to April 1. This work in connection with other recently secured for the joiner department will provide employment for more than 450 men during the winter months.

It was explained that the work was secured on a low basis with the prompting motive being at values in line with the present industrial situation. Plans are being worked out to distribute the work over two shifts of six hours each, so that the money will go to a greater number of people. Preference will be given to old employees.

The action of the Champion Fibre Company was taken following the announcement of President Hoover the middle of last week and their maith in the future has been the cause of much commendation for them because the construction of the new plant and equipment will cost about $1,500,000.

On the evening of November 9, the International Paper Company honored the employees of its mill at Riley, Maine, on the occasion of the annual safety banquet. The Riley mill has made a no-accident record over a 65-month period, and it will be recalled that this plant won THE PAPER INDUSTRY major trophy in the 1927 safety contest, after competing with other mills in its group for 29 months.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of The Paper Industry, published monthly at Chicago, Illinois, for October 1, 1931:

State of Illinois, County of Cook, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Edward B. Fritz, who, having been duly sworn according to law, deposes and says that he is the publisher of The Paper Industry and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Edward B. Fritz, 333 N. Michigan Ave., Chicago, Ill.; Editor, A. Scott Dowd, 333 N. Michigan Ave., Chicago, Ill.; Managing Editor, A. Scott Dowd, 333 N. Michigan Ave., Chicago, Ill.; Business Manager, Edward B. Fritz, 333 N. Michigan Ave., Chicago, Ill.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Edward B. Fritz, 333 N. Michigan Ave., Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is ..... (This information is required from daily publications only.)

EDWARD B. FRITZ,

(Signature of editor, publisher, business manager, or owner.)

Sworn to and subscribed before me this 16th day of October, 1931.
[SEAL] MARGUERITE FREYERMUTH, Notary Public.
(My commission expires January, 1933.)

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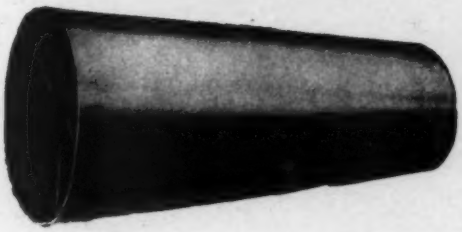

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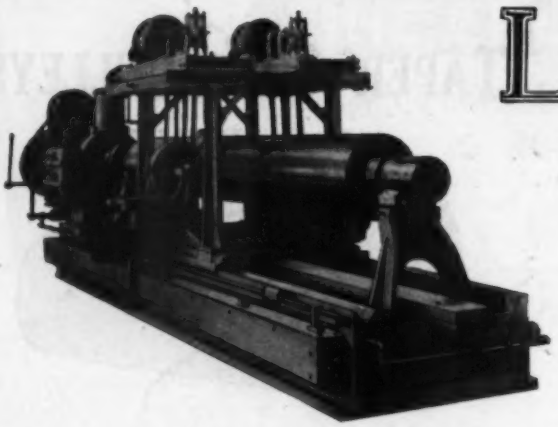

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